URBAN CROSSROADS

Moreno Valley Walmart

NOISE IMPACT ANALYSIS

CITY OF MORENO VALLEY

PREPARED BY:

Bill Lawson, PE, INCE
blawson@urbanxroads.com
(949) 660-1994 x203

Alex Wolfe
awolfe@urbanxroads.com
(949) 660-1994 x209

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LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
ANSI	American National Standards Institute
Calveno	California Vehicle Noise
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
dBA	A-weighted decibels
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
HVAC	Heating, Ventilation and Air-Conditioning
INCE	Institute of Noise Control Engineering
Leq	Equivalent continuous (average) sound level
Lmax	Maximum level measured over the time interval
Lmin	Minimum level measured over the time interval
mph	Miles per hour
NLR	Noise Level Reduction
Project	Moreno Valley Walmart
RCNM	Roadway Construction Noise Model
REMEL	Reference Energy Mean Emission Level
STC	Sound Transmission Class
VdB	Vibration Decibels

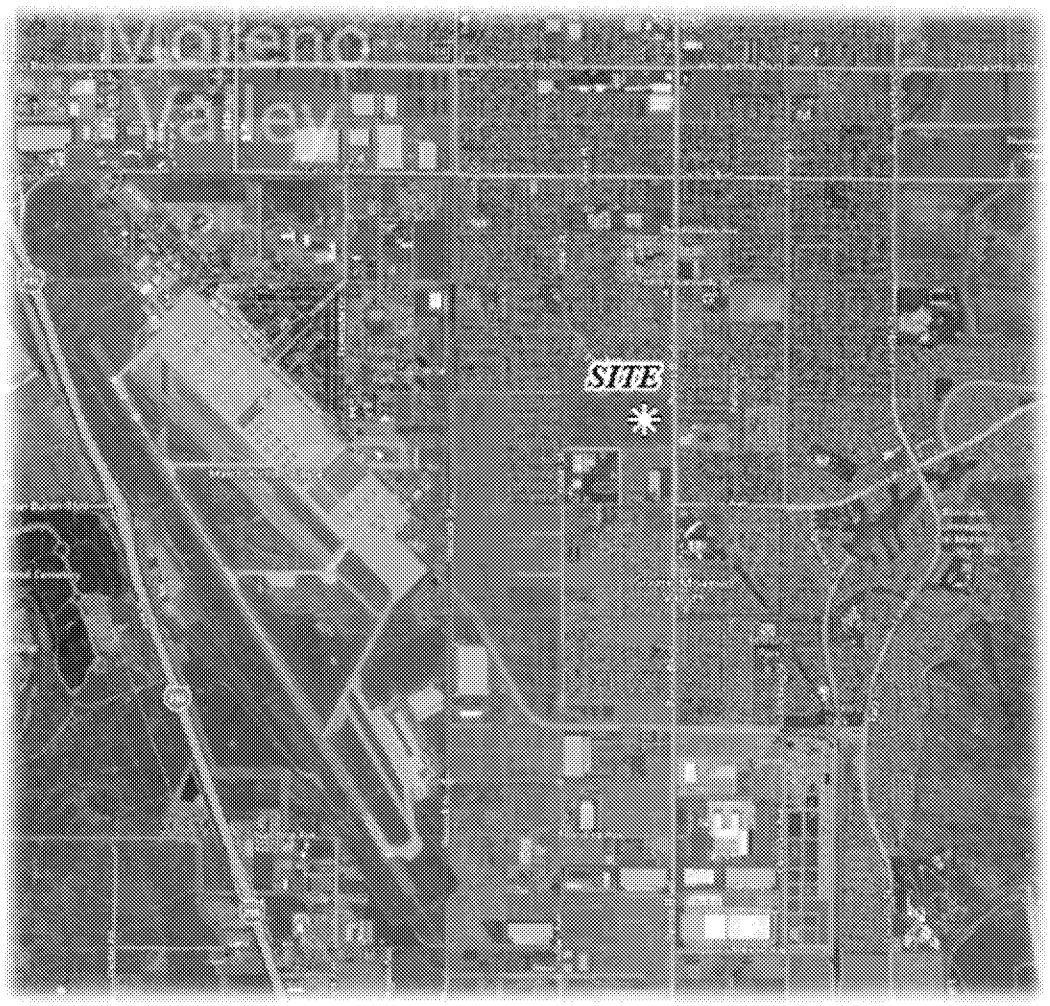
1 INTRODUCTION

This noise analysis has been completed to determine the noise impacts associated with the development of the proposed Moreno Valley Walmart ("Project"). This noise study briefly describes the proposed Project, provides information regarding noise fundamentals, describes the local regulatory setting, provides the study methods and procedures for traffic noise analysis, and evaluates the future exterior noise environment. In addition, this study includes an analysis of the potential Project-related long-term operational noise impacts and short-term construction noise impacts.

1.1 SITE LOCATION

The proposed Moreno Valley Walmart development is located west of Perris Boulevard and south of Gentian Avenue in the City of Moreno Valley as shown on Exhibit 1-A. The Project site is currently vacant.

EXHIBIT 1-A: LOCATION MAP



1.2 STUDY AREA

The Project site is located within area developed mostly with residential and commercial land uses as shown on Exhibit 1-B. The existing residential community located approximately 1,500 west of the site across Indian Street includes a six-foot high masonry perimeter sound wall. The residential homes located approximately 700 feet north of the project site include a combination of fencing materials (wood and chain-link) that provide limited noise attenuation potential.

The March Middle School and Rainbow Ridge Elementary School are situated approximately 1,300 feet southwest of the Project site. The commercial land use located south the Project consists of an existing Home Depot. The land uses east of the Project site across Perris Boulevard include residential and a large parcel reserved for the use as the City Yard. To ensure that the noise analysis presents the worst-case future noise impacts associated with development of the Project, this analysis also identifies the impacts for the planned adjacent residential areas that are currently vacant to the north and west of the Project site.

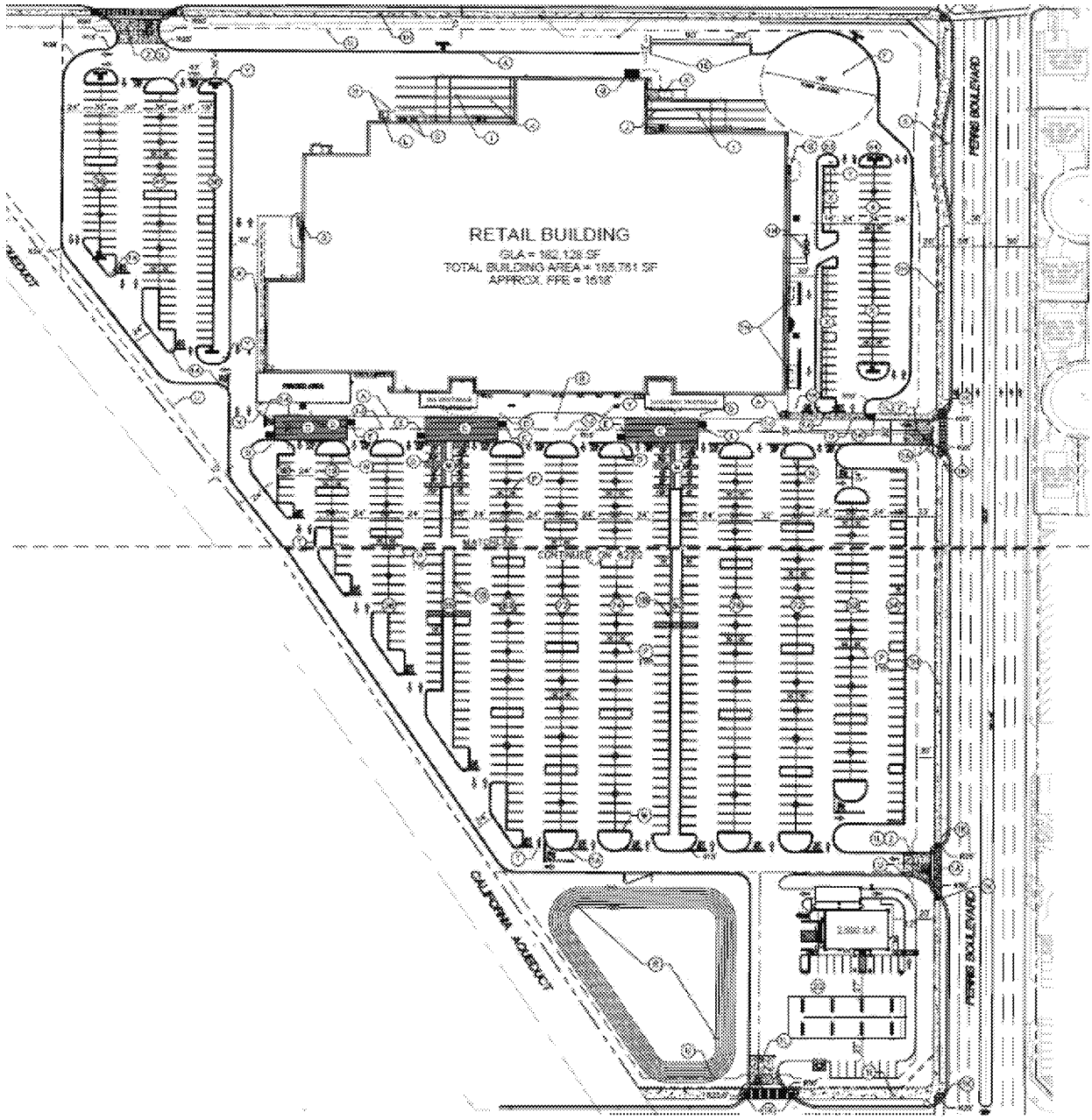
1.3 PROJECT DESCRIPTION

The Project includes the development of a 185,761 square foot free-standing discount superstore and a 16 vehicle fueling position gas station with convenience market and car wash. It is assumed that the Project will be constructed and occupied by 2018. Exhibit 1-C illustrates a preliminary conceptual site plan

EXHIBIT 1-B: EXISTING LAND USES

Source: Moreno Valley General Plan Land Use Map; Applied Planning, Inc.

EXHIBIT 1-C: SITE PLAN



2 FUNDAMENTALS

Noise has been simply defined as "unwanted sound." Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm or when it has adverse effects on health. Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). A-weighted decibels (dBA) approximate the subjective response of the human ear to broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies which are audible to the human ear. Exhibit 2-A presents a summary of the typical noise levels and their subjective loudness and effects that are described in more detail below.

EXHIBIT 2-A: TYPICAL NOISE LEVELS

COMMON OUTDOOR ACTIVITIES	COMMON INDOOR ACTIVITIES	A - WEIGHTED SOUND LEVEL dBA	SUBJECTIVE LOUDNESS	EFFECTS OF NOISE
THRESHOLD OF PAIN		140	INTOLERABLE OR DEAFENING	HEARING LOSS
NEAR JET ENGINE		130		
		120		
JET FLY-OVER AT 300m (1000 ft)	ROCK BAND	110		
LOUD AUTO HORN		100	VERY NOISY	
GAS LAWN MOWER AT 1m (3 ft)		90		
DIESEL TRUCK AT 15m (50 ft), at 80 km/hr (50 mph)	FOOD BLENDER AT 1m (3 ft)	80		SPEECH INTERFERENCE
NOISY URBAN AREA, DAYTIME	VACUUM CLEANER AT 3m (10 ft)	70	LOUD	
HEAVY TRAFFIC AT 90m (300 ft)	NORMAL SPEECH AT 1m (3 ft)	60		
QUIET URBAN DAYTIME	LARGE BUSINESS OFFICE	50	MODERATE	SLEEP DISTURBANCE
QUIET URBAN NIGHTTIME	THEATER, LARGE CONFERENCE ROOM (BACKGROUND)	40		
QUIET SUBURBAN NIGHTTIME	LIBRARY	30	FAINT	NO EFFECT
QUIET RURAL NIGHTTIME	BEDROOM AT NIGHT, CONCERT HALL (BACKGROUND)	20		
	BROADCAST/RECORDING STUDIO	10	VERY FAINT	
LOWEST THRESHOLD OF HUMAN HEARING	LOWEST THRESHOLD OF HUMAN HEARING	0		

Source: Environmental Protection Agency Office of Noise Abatement and Control, Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (EPA/ONAC 550/9-74-004) March 1974.

2.1 RANGE OF NOISE

Since the range of intensities that the human ear can detect is so large, the scale frequently used to measure intensity is a scale based on multiples of 10, the logarithmic scale. The scale for measuring intensity is the decibel scale. Each interval of 10 decibels indicates a sound energy ten times greater than before, which is perceived by the human ear as being roughly twice as loud.(1) The most common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). Normal conversation at three feet is roughly at 60 dBA, while loud jet engine noises equate to 110 dBA at approximately 100 feet, which can cause serious discomfort.(2) Another

important aspect of noise is the duration of the sound and the way it is described and distributed in time.

2.2 NOISE DESCRIPTORS

Environmental noise descriptors are generally based on averages, rather than instantaneous, noise levels. The most commonly used figure is the equivalent level (Leq). Equivalent sound levels are not measured directly but are calculated from sound pressure levels typically measured in A-weighted decibels (dBA). The equivalent sound level (Leq) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period.

Peak hour or average noise levels, while useful, do not completely describe a given noise environment. Noise levels lower than peak hour may be disturbing if they occur during times when quiet is most desirable, namely evening and nighttime (sleeping) hours. To account for this, the Community Noise Equivalent Level (CNEL), representing a composite twenty-four hour noise level is utilized. The CNEL is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time of day corrections require the addition of 5 decibels to dBA Leq sound levels in the evening from 7:00 p.m. to 10:00 p.m., and the addition of 10 decibels to dBA Leq sound levels at night between 10:00 p.m. and 7:00 a.m. These additions are made to account for the noise sensitive time periods during the evening and night hours when sound appears louder. CNEL does not represent the actual sound level heard at any particular time, but rather represents the total sound exposure. The City of Moreno Valley relies on the 24-hour CNEL level to assess land use compatibility with transportation related noise sources.

2.3 SOUND PROPAGATION

When sound propagates over a distance, it changes in level and frequency content. The manner in which noise reduces with distance depends on the following factors.

2.3.1 GEOMETRIC SPREADING

Sound from a localized source (i.e., a stationary point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling of distance from a point source. Highways consist of several localized noise sources on a defined path and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source.

2.3.2 GROUND ABSORPTION

The propagation path of noise from a highway to a receptor is usually very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also

been expressed in terms of attenuation per doubling of distance. This approximation is usually sufficiently accurate for distances of less than 200 ft. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receptor, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receptor such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dB per doubling of distance from a line source.

2.3.3 Atmospheric Effects

Receptors located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 ft) due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects.

2.3.4 Shielding

A large object or barrier in the path between a noise source and a receptor can substantially attenuate noise levels at the receptor. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Shielding by trees and other such vegetation typically only has an "out of sight, out of mind" effect. That is, the perception of noise impact tends to decrease when vegetation blocks the line-of-sight to nearby resident. However, for vegetation to provide a substantial, or even noticeable, noise reduction, the vegetation area must be at least 15 feet in height, 100 feet wide and dense enough to completely obstruct the line-of sight between the source and the receptor. This size of vegetation may provide up to 5 dBA of noise reduction. The FHWA does not consider the planting of vegetation to be a noise abatement measure.

2.4 Traffic Noise Prediction

Vehicle noise is a combination of the noise produced by the engine, exhaust, and tires on the roadway. According to the *Highway Traffic Noise Analysis and Abatement Policy and Guidance,* provided by the Federal Highway Administration, the level of traffic noise depends on three primary factors: the volume of the traffic, the speed of the traffic, and the vehicle mix within the flow of traffic. Generally, the loudness of traffic noise is increased by heavier traffic volumes, higher speeds, and a greater number of trucks.(3) A doubling of the traffic volume, assuming that the speed and vehicle mix do not change, results in a noise level increase of 3 dBA. The vehicle mix on a given roadway may also have an effect on community noise levels. As the number of medium and heavy trucks increases and becomes a larger percentage of the vehicle mix, adjacent noise level impacts will increase.

2.5 NOISE CONTROL

Noise control is the process of obtaining an acceptable noise environment for a particular observation point or receptor by controlling the noise source, transmission path, receptor, or all three. This concept is known as the source-path-receptor concept. In general, noise control measures can be applied to any and all of these three elements.

2.6 NOISE BARRIER ATTENUATION

Effective noise barriers can reduce noise levels by 10 to 15 dBA, cutting the loudness of traffic noise in half. A noise barrier is most effective when placed close to the noise source or receptor. Noise barriers, however, do have limitations. For a noise barrier to work, it must be high enough and long enough to block the view of the noise source. (3)

2.7 LAND USE COMPATIBILITY WITH NOISE

Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches and residences are more sensitive to noise intrusion than are commercial or industrial activities. As ambient noise levels affect the perceived amenity or livability of a development, so too can the mismanagement of noise impacts impair the economic health and growth potential of a community by reducing the area's desirability as a place to live, shop and work. For this reason, land use compatibility with the noise environment is an important consideration in the planning and design process.

The FHWA encourages State and Local government to regulate land development in such a way that noise-sensitive land uses are either prohibited from being located adjacent to a highway, or that the developments are planned, designed, and constructed in such a way that noise impacts are minimized. (4)

2.8 COMMUNITY RESPONSE TO NOISE

Community responses to noise may range from registering a complaint by telephone or letter, to initiating court action, depending upon each individual's susceptibility to noise and personal attitudes about noise. Several factors are related to the level of community annoyance including:

- Fear associated with noise producing activities;
- Socio-economic status and educational level of the receptor;
- Noise receptor's perception that they are being unfairly treated;
- Attitudes regarding the usefulness of the noise-producing activity;
- Receptor's belief that the noise source can be controlled.

Approximately ten percent of the population has a very low tolerance for noise and will object to any noise not of their making. Consequently, even in the quietest environment, some complaints will occur. Another twenty-five percent of the population will not complain even in very severe noise environments. Thus, a variety of reactions can be expected from people exposed to any given noise environment. (5) Surveys have shown that about ten percent of the

people exposed to traffic noise of 60 dBA will report being highly annoyed with the noise, and each increase of one dBA is associated with approximately two percent more people being highly annoyed. When traffic noise exceeds 60 dBA or aircraft noise exceeds 55 dBA, people may begin to complain. (5)

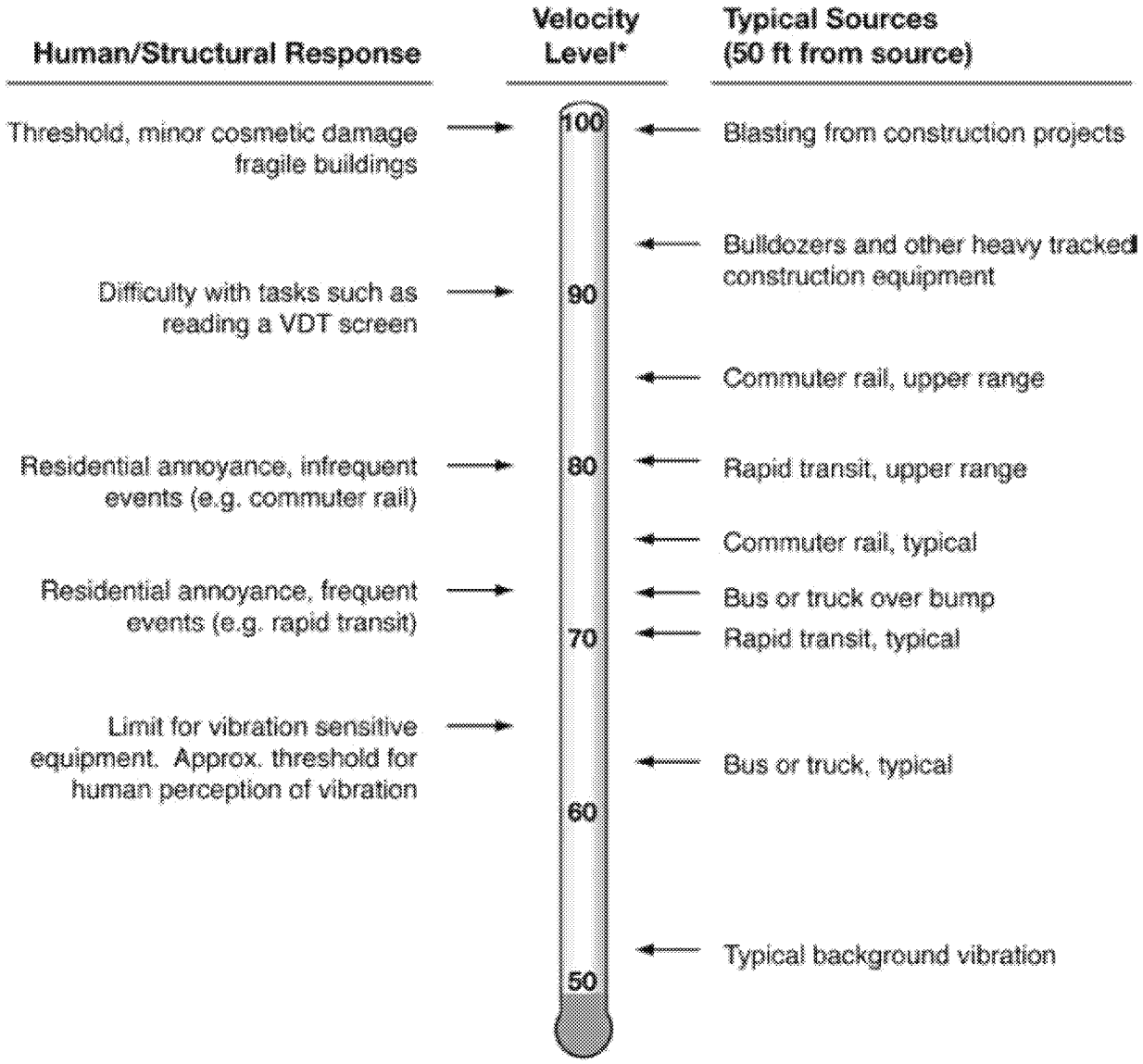
Despite this variability in behavior on an individual level, the population as a whole can be expected to exhibit the following responses to changes in noise levels. An increase or decrease of 1 dBA cannot be perceived except in carefully controlled laboratory experiments, a change of 3 dBA are considered *barely perceptible*, and changes of 5 dBA are considered *readily perceptible*. (3)

2.9 VIBRATION

According to the Federal Transit Administration (FTA) Transit Noise Impact and Vibration Assessment (6), vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structure borne noise. Sources of ground-borne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, ground-borne vibrations may be described by amplitude and frequency. Vibration is often described in units of velocity (inches per second), and discussed in decibel (dB) units in order to compress the range of numbers required to describe vibration. Vibration impacts are generally associated with activities such as train operations, construction and heavy truck movements.

The background vibration-velocity level in residential areas is generally 50 VdB. Ground-borne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground-borne vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Exhibit 2-B illustrates common vibration sources and the human and structural response to ground-borne vibration.

EXHIBIT 2-B: TYPICAL LEVELS OF GROUND-BORNE VIBRATION



** RMS Vibration Velocity Level in VdB relative to 10^{-6} inches/second*

Source: Federal Transit Administration (FTA) Transit Noise Impact and Vibration Assessment

3 REGULATORY SETTING

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise. In most areas, automobile and truck traffic is the major source of environmental noise. Traffic activity generally produces an average sound level that remains fairly constant with time. Air and rail traffic, and commercial and industrial activities are also major sources of noise in some areas. Federal, state, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies.

3.1 STATE OF CALIFORNIA NOISE REQUIREMENTS

The State of California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards and provides guidance for local land use compatibility. State law requires that each county and city adopt a General Plan that includes a Noise Element which is to be prepared according to guidelines adopted by the Governor's Office of Planning and Research. (7) The purpose of the Noise Element is to *limit the exposure of the community to excessive noise levels*. In addition, the California Environmental Quality Act (CEQA) requires that all known environmental effects of a project be analyzed, including environmental noise impacts.

3.2 STATE OF CALIFORNIA BUILDING CODE

The State of California's noise insulation standards are codified in the California Code of Regulations, Title 24, Building Standards Administrative Code, Part 2, and the California Building Code. These noise standards are applied to new construction in California for the purpose of controlling interior noise levels resulting from exterior noise sources. The regulations specify that acoustical studies must be prepared when noise-sensitive structures, such as residential buildings, schools, or hospitals, are developed near major transportation noise sources, and where such noise sources create an exterior noise level of 60 dBA CNEL or higher. Acoustical studies that accompany building plans for noise-sensitive land uses must demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. For new residential buildings, schools, and hospitals, the acceptable interior noise limit for new construction is 45 dBA CNEL.

3.3 CITY OF MORENO VALLEY NOISE ELEMENT

The City Noise Element typically provides the standards for land use compatibility for community noise exposure. However, the City of Moreno Valley General Plan does not include a noise element or specific transportation related noise standards. Rather, noise is considered in the Environmental Safety section of the General Plan Safety Element included in Appendix 3.1. (8) While the General Plan provides background and noise fundamentals, it does not identify criteria to assess the impacts associated with off-site transportation related noise

impacts. Therefore, for the purpose of this analysis, the transportation noise criteria are derived from standards contained in the General Plan Guidelines, a publication of the California Office of Planning and Research. These land use / noise compatibility standards included on Figure 2 in Appendix 3.2 are used by many California cities and counties and specify the maximum noise levels allowable for new developments impacted by transportation noise sources

The purpose of the transportation noise criteria is to protect, create, and maintain an environment free from noise and vibration that may jeopardize the health or welfare of sensitive receptors, or degrade quality of life. City General Policies (City of Moreno Valley General Plan, pp.9-31, 9-32) act to ensure that when exterior noise levels exceed 65 dBA CNEL at sensitive receptors, mitigation is provided to ensure that interior noise levels of 45 dBA CNEL are maintained. General Plan Policies in this regard are consistent with, and support, the California Building Code interior noise standards.

3.4 CITY OF MORENO VALLEY MUNICIPAL CODE STANDARDS

The Project operational stationary/area source noise impacts are governed by the City of Moreno Valley Municipal Code, Title 11, Chapter 11, Regulation (Sections 11.80.010 through 11.80.060). These limits are used to describe the time-varying character of the stationary/area source operational noise levels and they do not compare with the 24-hour total sound exposure transportation related CNEL noise level limits.

3.4.1 OPERATIONAL STATIONARY/AREA SOURCE NOISE

The Noise Ordinance included in the City of Moreno Valley Municipal Code provides performance standards and noise control guidelines for determining and mitigating non-transportation or stationary/area noise source impacts from operations at private properties. The maximum allowable stationary/area-source noise levels are regulated pursuant to the City of Moreno Valley Municipal Code, Chapter 11.80 Noise Regulation (Sections 11.80.010 through 11.80.060). The City of Moreno Valley Noise Ordinance is included in Appendix 3.3.

To conform with applicable provisions of the Municipal Code, the maximum allowable noise generated by area/stationary sources when measured at 200 feet from any property line, shall not exceed 65dBA Leq during daytime hours (8:00 a.m. to 10:00 p.m. the same day); and shall not exceed 60 dBA Leq during nighttime hours (10:01 p.m. to 7:59 a.m. the following day).

3.4.2 CONSTRUCTION NOISE

As a subset of its stationary/area-source noise regulations, the City Municipal Code establishes additional restrictions on construction-source noise. More specifically, Municipal Code Section 11.80.030.D.7, *Construction and Demolitions*, provides the following limits to the hours of general construction equipment operations:

> *No person shall operate or cause operation of any tools or equipment used in construction, drilling, repair, alteration or demolition work between the hours of eight p.m. and seven a.m. the following day such that the sound there from creates a noise*

> *disturbance, except for emergency work by public service utilities or for other work approved by the city manager or designee.*

However, grading operations shall be limited to the hours identified in Section 8.21.050 (O) of 7:00 a.m. to 6:00 p.m., Monday through Friday, and 8:00 a.m. to 4:00 p.m. on weekends and holidays or as approved by the City Engineer. In addition to the hours of operations limitations provided in the Noise Ordinance, Section 11.80.030 (C.), *Non-impulsive Sound Decibel Limits* states the following:

> *No person shall maintain, create, operate or cause to be operated on private property any source of sound in such a manner as to create any non-impulsive sound which exceeds the limits set forth for the source land use category in Table 11.80.030-2 when measured at a distance of two hundred (200) feet or more from the real property line of the source of the sound, if the sound occurs on privately owned property, or from the source of the sound, if the sound occurs on public right-of-way, public space or other publicly owned property. Any source of sound in violation of this subsection shall be deemed prima facie to be a noise disturbance*. (9)

Even though the City of Moreno Valley Municipal Code does not identify specific construction noise limits; it does provide noise level limits for the source land use category when measured at a distance of 200 feet. Since the source land use (commercial) is other than residential, 65 dBA Leq at a distance of 200 feet is used as the limit for this analysis to assess the construction noise level impacts. Therefore, to conform with applicable provisions of the Municipal Code, the maximum allowable noise generated by on-site construction activities when measured at 200 feet from any property line, shall not exceed 65dBA Leq. To ensure that Project construction activities do not adversely affect ambient noise conditions during the nighttime hour of 7:00 a.m. to 8:00 a.m., and to demonstrate compliance with provisions of Municipal Code Section 11.80.030.D.7, noise-generating Project construction activities shall be prohibited between the hours of 8:00 p.m. to 8:00 a.m. for general construction operations. Grading operations shall be prohibited between the hours of 6:00 p.m. to 8:00 a.m. on weekdays, and 4:00 p.m. to 8:00 a.m. on weekends and holidays.

3.5 VIBRATION STANDARDS

The United States Department of Transportation Federal Transit Administration (FTA) provides guidelines (6) for maximum-acceptable vibration criteria for different types of land uses. These guidelines allow 80 VdB for residential uses and buildings where people normally sleep.

Construction activity can result in varying degrees of ground-borne vibration, depending on the equipment and methods used, distance to the affected structures and soil type. Construction vibration is generally associated with pile driving and rock blasting. Other construction equipment such as air compressors, light trucks, hydraulic loaders, etc., generates little or no ground vibration. Occasionally large bulldozers and loaded trucks can cause perceptible vibration levels at close proximity. The FTA guidelines of 80 VdB for sensitive land uses provide the basis for determining the relative significance of potential Project related vibration impacts.

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4 THRESHOLDS OF SIGNIFICANCE

This section outlines the applicable thresholds of significance that were used assess the potential project noise impacts.

4.1 STANDARDS OF SIGNIFICANCE

Based on the noise criteria presented in Section 3, and direction provided within the CEQA Guidelines as implemented by the City of Moreno Valley, Project noise impacts would be considered potentially significant if the Project is determined to result in or cause the following conditions:

- Exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project; or
- A substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project.
- Exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels.
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the Project area to excessive noise levels.
- For a project within the vicinity of a private airstrip, expose people residing or working in the Project area to excessive noise levels.

4.2 NOISE IMPACT SIGNIFICANCE CRITERIA

Noise impact significance criteria germane to the Project are discussed below.[1]

- Potential to expose persons to, or generate, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

Project Stationary/Area-Source Noise Exceeding City Standards Would be Considered Potentially Significant. The City of Moreno Valley Municipal Code Chapter 11.80 Noise Regulation, Table 11.80.030-2 *Maximum Sound Levels for Source Land Uses* shown on Table 4-1 establishes the maximum acceptable noise levels that can be generated by stationary/area noise sources as received at off-site land uses.

[1] As substantiated in the EIR Initial Study, the Project's potential impacts under the following topics are determined to be less-than-significant, and are not further discussed in this Analysis:

- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the Project area to excessive noise levels.
- For a project within the vicinity of a private airstrip, expose people residing or working in the Project area to excessive noise levels.

TABLE 4-1: MAXIMUM SOUND LEVELS (IN DBA((A)) FOR SOURCE LAND USES

Residential		Commercial	
Daytime	Nighttime	Daytime	Nighttime
60	55	65	60

Source: City of Moreno Valley Municipal Code Chapter 11.80 Noise Regulation, Table 11.80.030-2
Notes: Nighttime: 10:01 p.m. to 7:59 a.m. the following day; Daytime: 8:00 a.m. to 10:00 p.m. the same day.

The City Municipal Code also establishes additional restrictions on construction-source noise. More specifically, Municipal Code Section 11.80.030.D.7, *Construction and Demolitions*, provides the following for general construction operations:

> *No person shall operate or cause operation of any tools or equipment used in construction, drilling, repair, alteration or demolition work between the hours of eight p.m. and seven a.m. the following day such that the sound there from creates a noise disturbance, except for emergency work by public service utilities or for other work approved by the city manager or designee.*

Grading operations shall be prohibited between the hours of 6:00 p.m. to 8:00 a.m. on weekdays, and 4:00 p.m. to 8:00 a.m. on weekends and holidays based on Section 8.21.050.O of the Municipal Code.

Project Vehicular-Source Noise Exceeding City Standards Would be Considered Potentially Significant. City General Policies (City of Moreno Valley General Plan, pp.9-31, 9-32) establish parameters for vehicular source noise along City roadways. In this regard City General Plan Policies act to ensure that when exterior noise levels exceed 65 dBA CNEL at sensitive receptors mitigation is provided to ensure that interior noise levels of 45 dBA CNEL are maintained. Project vehicular-source noise that would cause or result in noise levels exceeding 65 dBA CNEL would potentially expose persons to noise levels in excess of standards established in the local general plan, and would therefore be potentially significant.

4.2.1 SIGNIFICANCE SUMMARY

Project stationary/area-source noise exceeding Municipal Code Noise Regulations identified at Table 11.80.030-2; or that would violate provisions of Municipal Code Section 11.80.030.D.7, *Construction and Demolitions* would potentially expose persons to, or generate, noise levels in excess of standards established in the local noise ordinance, and would therefore be potentially significant.

Additionally, Project vehicle-source noise that would result in exposure of land uses to noise levels greater than 65 dBA CNEL as established under City General Plan Policies, would potentially expose persons to, or generate, noise levels in excess of standards established in the local general plan, and would therefore be potentially significant.

- Potential to result in or cause a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project; or

- Potential to result in or cause a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project.

Perceptible Project Stationary/Area-Source Noise Exceeding Maximum Acceptable Ambient Conditions Would be Considered Substantial and Potentially Significant. For the purposes of this analysis, the City's *Maximum Sound Levels for Source Land Uses* (65 dBA daytime/60 dBA nighttime) is also defined as the maximum acceptable ambient condition when considering stationary/area-source noise impacts. In this regard, the maximum acceptable ambient noise conditions established in this analysis reflect local standards for acceptable noise conditions; correlate with Policies established in the City General Plan; and are consistent with applicable California Office of Planning and Research (OPR) Land Use/Noise Compatibility Guidelines. (7)

When ambient noise conditions are within acceptable parameters (65 dBA daytime/60 dBA nighttime) and perceptible (3.0 dBA or greater) Project stationary/area-source noise (whether temporary/periodic or permanent) would individually or in combination with ambient noise levels, exceed 65 dBA daytime/60 dBA nighttime, Project-source increases in ambient conditions could adversely affect area land uses, and land use/noise compatibility standards may not be maintained. Project stationary/area-source noise of 3.0 dBA or greater that would cause ambient conditions to exceed 65 dBA daytime/60 dBA nighttime would on this basis be considered substantial and potentially significant.

Perceptible Project Vehicular-Source Noise Exceeding Maximum Acceptable Ambient Conditions Would be Considered *Substantial* and Potentially Significant. Similarly, when considering vehicular-source noise, the City's 65 dBA CNEL standard reflected in the City General Plan is defined as the maximum acceptable ambient condition when considering vehicular-source noise impacts. When ambient noise conditions are within acceptable parameters (65 dBA CNEL) and perceptible (3.0 dBA or greater) Project vehicular-source noise would, individually or in combination with ambient conditions, exceed 65 dBA CNEL, Project-source increases in ambient conditions could adversely affect area land uses, and land/use noise compatibility standards may not be maintained. Project vehicular-source noise of 3.0 dBA or greater that would cause ambient conditions to exceed 65dBA CNEL would on this basis be considered *substantial* and potentially significant.

When Noise Levels Exceed Maximum Acceptable Ambient Conditions, Project Stationary/Area-Source Noise Increases of 1.5 dBA or Greater Would be Considered *Substantial* and Potentially Significant. If however, ambient conditions already exceed minimum acceptable standards, subsequent increases in noise levels may be considered substantial as they would contribute to already deficient conditions. Neither the City nor the State have established a quantified incremental increase in noise levels that could be considered *substantial* in instances where ambient conditions may already be considered unacceptable. Guidance in this regard is however, provided at the federal level through the

Federal Interagency Committee on Noise (FICON). (10) In this regard, FICON guidance facilitates assessment of project-generated increases in noise levels that take into account ambient noise conditions. Although the FICON guidance was specifically developed to assess aircraft noise impacts, this guidance is broadly relevant to all environmental noise assessments in determining perceived effects of noise. Germane to this analysis, the FICON guidance indicates that when ambient noise conditions are at or above normally acceptable standards, increases in noise of 1.5 dBA or greater would contribute to existing deficiencies, potentially resulting in increased community annoyance, citizen complaints, and potential litigation.

FICON guidance as applied within this analysis would indicate that when ambient conditions equal or exceed the City's maximum acceptable standards for stationary/area-sources (65 dBA daytime/60 dBA nighttime), Project stationary/area-source noise increases of 1.5 dBA or greater in ambient conditions could result in increased community annoyance, citizen complaints, and potential litigation. For the purposes of this analysis then, when ambient conditions equal or exceed maximum acceptable standards for stationary/area-sources, Project stationary/area-source noise increases of 1.5 dBA more in ambient conditions would therefore be considered *substantial*, and therefore potentially significant.

When Noise Levels Exceed Maximum Acceptable Ambient Conditions, Project Vehicular-Source Noise Increases of 1.5 dBA or Greater Would be Considered Substantial and Potentially Significant. Similarly, when ambient noise conditions are at or above the City's normally acceptable standards for vehicular sources (65 dBA CNEL), Project vehicular-source increases of 1.5 dBA or greater in ambient conditions would contribute to existing deficiencies, and could result in increased community annoyance, citizen complaints, and potential litigation. For the purposes of this analysis then, when ambient conditions equal or exceed maximum acceptable standards for vehicular sources, Project vehicular-source noise increase of 1.5 dBA more in ambient conditions would therefore be considered *substantial* and therefore potentially significant.

In summary a substantial temporary or permanent increase in ambient noise conditions would occur if Project-source noise would:

- Result in an perceptible increase in noise levels (3.0 dBA or greater) that would cause the maximum acceptable ambient condition (65 dBA daytime/60 dBA nighttime for stationary/area-sources; 65 dBA CNEL for vehicular sources) to be exceeded; or
- Result in an increase of 1.5 dBA in ambient conditions when the noise environment at receptor land uses already exceeds the maximum acceptable ambient noise condition (65 dBA daytime/60 dBA nighttime for stationary/area-sources; 65 dBA CNEL for vehicular sources).

4.3 VIBRATION IMPACT SIGNIFICANCE CRITERIA

The following vibration impact significance criteria are based on guidance provided by Appendix

G of the California Environmental Quality Act (CEQA) Guidelines.

- ***Potential to expose persons to, or generate, excessive groundborne vibration or groundborne noise levels.***

Received vibration levels exceeding the FTA maximum acceptable vibration standard of 80 vibration decibels (VdB) for sensitive land uses would be considered excessive, and therefore potentially significant.

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5 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, five long-term noise level measurements were taken at receptor locations in the Project study area. The noise level measurement locations were selected to describe and document the existing noise environment within the Project study area. Exhibit 5-A provides the boundaries of the Project study area and the noise level measurement locations. The noise level measurements were recorded by Urban Crossroads, Inc. on Wednesday, October 2, 2013 and Friday, October 4th, 2013. Appendix 5.1 includes study area photos.

5.1 MEASUREMENT PROCEDURE AND CRITERIA

To describe the existing noise environment, the hourly noise levels were measured during typical weekday conditions over a 24-hour period. By collecting individual hourly noise level measurements, it is possible to describe the daytime and nighttime hourly noise levels and calculate the 24-hour CNEL. The long-term noise readings were recorded using Piccolo Type 2 integrating sound level meter and dataloggers. The Piccolo sound level meters were calibrated using a Larson-Davis calibrator, Model CAL 150. All noise meters were programmed in "slow" mode to record noise levels in "A" weighted form. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment meets American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-1983 (R2006)/ANSI S1.4a-1985 (R2006).(11)

5.2 NOISE MEASUREMENT LOCATIONS

The long-term noise level measurements were positioned at the nearest noise sensitive receptor locations to assess the existing ambient hourly noise levels surrounding the Project site. It is not necessary to collect measurements at each individual building or residence, because each receptor measurement represents a group of buildings that share acoustical equivalence. In other words, the area represented by the receptor shares similar shielding, terrain, and geometric relationship to the reference noise source. While receptors represent a location of noise sensitive areas, they also represent noise modeling locations used to estimate the future noise level impacts. Collecting reference ambient noise level measurements at the nearby sensitive receptor locations allows for a comparison of the before and after Project noise levels.

EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS

LEGEND:

N

LONG-TERM NOISE MEASUREMENT LOCATION

5.3 NOISE MEASUREMENT RESULTS

The results of the noise level measurements are presented in Table 5-1. Table 5-1 identifies the hourly daytime (8:00 a.m. to 10:00 p.m.) and nighttime (10:01 p.m. to 7:59 a.m.) noise levels at each noise level measurement location. Appendix 5.2 provides a summary of the existing hourly ambient noise levels described below:

- Located in front of the backyard wall of homes on Ninya Avenue, location LT-1 represents the off-site unmitigated exterior noise levels in front of the backyard wall at the southeast corner of the Project site. Based on the noise level measurements, the existing daytime hourly ambient noise levels ranged from 68.7 to 72.3 dBA Leq resulting in an energy (logarithmic) average daytime noise level of 70.2 dBA Leq. During the nighttime hours, the measured ambient noise levels ranged from 61.7 to 71.9 dBA Leq producing an energy (logarithmic) average nighttime noise level of 68.4 dBA Leq. The 24-hour noise level calculated at this location is 74.9 dBA CNEL which is considered *normally unacceptable* for single-family residential land use by the Land Use Compatibility criteria in the General Plan Guidelines.(7)
- Location LT-2 represents the adjacent residential homes located east of the Project site across Perris Boulevard on Wendy Way. The hourly noise levels measured at Location LT-2 ranged from 69.9 to 72.7 dBA Leq during the daytime hours and from 62.9 to 74.3 dBA Leq during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 71.7 dBA Leq with an average nighttime noise level of 70.4 dBA Leq. A review of the 24-hour Community Noise Equivalent Level (CNEL) at this location indicates that the overall unmitigated exterior noise level is 77.0 dBA CNEL which is considered *normally acceptable* for residential land use by the Land Use Compatibility General Plan Guidelines (Figure 2). (7)
- Location LT-3 represents the area north of the Project site near the adjacent residential land use with a combination of fencing materials (wood and chain-link). At Location LT-3, the homes are located some distance from the traffic noise level impacts of Indian Street and Perris Boulevard. As a result, the background ambient noise levels ranged from 41.4 to 50.0 dBA Leq during the daytime hours to levels of 39.0 to 43.3 dBA Leq during the nighttime hours. The energy (logarithmic) average daytime noise level was calculated at 44.1 dBA Leq with an average nighttime noise level of 41.0 dBA Leq. A review of the 24-hour Community Noise Equivalent Level (CNEL) indicates that the overall unmitigated exterior noise level is 48.3 dBA CNEL which is considered *normally acceptable* for residential land use by the Land Use Compatibility General Plan Guidelines (Figure 2). (7)
- To represent the existing ambient noise levels near the March Middle School and the Rainbow Ridge Elementary School, noise level measurement location LT-4 was placed north of the baseball diamond. At this location, the 24-hour noise level was calculated at 49.2 dBA CNEL, which is considered *normally acceptable* by the General Plan Guidelines.(7) The existing daytime hourly noise levels were measured at 42.0 to 54.2 dBA Leq with the nighttime hours ranging from 37.6 to 47.4 dBA Leq. The energy (logarithmic) average daytime noise level was calculated at 46.7 dBA Leq with an average nighttime noise level of 41.9 dBA Leq.
- Located west of the project site in an existing residential community, location LT-5 represents the off-site noise levels west of the project site across Indian Street. Based on the noise level measurements, the existing daytime hourly ambient noise levels ranged from 65.4 to 74.2 dBA Leq resulting in an energy (logarithmic) average daytime noise level of 69.0 dBA Leq. During the nighttime hours, the measured ambient noise levels ranged from 58.2 to 73.6 dBA Leq

producing an energy (logarithmic) average nighttime noise level of 66.7 dBA Leq. A review of the 24-hour Community Noise Equivalent Level (CNEL) indicates that the overall unmitigated exterior noise level is 72.4 dBA CNEL which is considered *normally unacceptable* for residential land use by the Land Use Compatibility General Plan Guidelines (Figure 2). However, with the existing six-foot high masonry perimeter sound wall and typical noise insulation features with standard building construction, the residential homes located across Indian Street are likely considered *conditionally acceptable*.

TABLE 5-1: LONG-TERM AMBIENT NOISE LEVEL MEASUREMENTS

Location[1]	Date	Description	Hourly Noise Level (Leq dBA)[2]		CNEL
			Daytime (7am to 10pm)	Nighttime (10pm to 7am)	
LT-1	10/2/2013	Located east of the Project site in front of the backyard wall of homes located on Ninya Avenue.	70.2	68.4	74.9
LT-2	10/4/2013	Located east of the Project site in front of the backyard wall of homes located on Wendy Way.	71.7	70.4	77.0
LT-3	10/2/2013	Located north of the Project site in front of the backyard wall of homes located on Fay Avenue.	44.1	41.0	48.3
LT-4	10/2/2013	Located west of the Project site north of the baseball diamond at the March Middle School.	46.7	41.9	49.2
LT-5	10/4/2013	Located west of the Project site and Indian Street in front of the backyard of homes on Electra Court.	69.0	66.7	72.4

[1] See Exhibit 5-A for the location of the monitoring sites.
[2] Energy (logarithmic) average hourly levels. The long-term measurements printouts are included in Appendix 5.2.

6 METHODS AND PROCEDURES

The following section outlines the methods and procedures used to model and analyze the future traffic noise environment.

6.1 FHWA TRAFFIC NOISE PREDICTION MODEL

The estimated roadway noise impacts from vehicular traffic were calculated using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model- FHWA-RD-77-108.(12) The FHWA Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). In California the national REMELs are substituted with the California Vehicle Noise (Calveno) Emission Levels.(13) Adjustments are then made to the REMEL to account for: the roadway classification (e.g., collector, secondary, major or arterial), the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway), the total average daily traffic (ADT), the travel speed, the percentages of automobiles, medium trucks, and heavy trucks in the traffic volume, the roadway grade, the angle of view (e.g., whether the roadway view is blocked), the site conditions ("hard" or "soft" relates to the absorption of the ground, pavement, or landscaping), and the percentage of total ADT which flows each hour throughout a 24-hour period.

6.2 TRAFFIC NOISE PREDICTION MODEL INPUTS

Table 6-1 presents the roadway parameters used to assess the Project's off-site transportation noise impacts. Table 6-1 identifies the 105 study area roadway segments, the functional roadway classifications according to the General Plan Circulation Element, the number of lanes and the vehicle speeds. For the purpose of this analysis, soft site conditions were used to analyze the traffic noise impacts for the Project study area. Soft site conditions account for the sound propagation loss over natural surfaces such as normal earth and ground vegetation.

The Existing, Year 2018, and Year 2035 average daily traffic volumes used for this study are presented in Table 6-2 and were provided by the *Moreno Valley Walmart Traffic Impact Analysis* prepared by Urban Crossroads, Inc. (14) Table 6-3 presents the time of day vehicle splits and Table 6-4 presents the traffic flow distributions (vehicle mix) used for this analysis. The vehicle mix provides the hourly distribution percentages of automobile, medium trucks and heavy trucks for input into the FHWA noise prediction model.

TABLE 6-1: OFF-SITE ROADWAY PARAMETERS

ID	Roadway	Segment	Roadway Section	Vehicle Speed (MPH)
1	Sunnymead Boulevard	Perris Boulevard to SR-60 EB On-Ramp	4D	55
2	Eucalyptus Avenue	East of Perris Boulevard	2U	40
3	Cottonwood Avenue	West of Indian Street	2D	45
4	Cottonwood Avenue	East of Indian Street	2D	45
5	Cottonwood Avenue	West of Perris Boulevard	2D	45
6	Cottonwood Avenue	East of Perris Boulevard	2U	40
7	Alessandro Boulevard	West of Heacock Street	5D	55
8	Alessandro Boulevard	East of Heacock Street	6D	55
9	Alessandro Boulevard	West of Indian Street	6D	55
10	Alessandro Boulevard	East of Indian Street	6D	55
11	Alessandro Boulevard	West of Perris Boulevard	6D	55
12	Alessandro Boulevard	East of Perris Boulevard	4D	55
13	Cactus Avenue	West of I-215 Freeway	4D	55
14	Cactus Avenue	I-215 SB Ramps to I-215 NB Ramps	4D	55
15	Cactus Avenue	East of I-215 NB Ramps	4D	55
16	Cactus Avenue	West of Elsworth Street	4D	55
17	Cactus Avenue	East of Elsworth Street	5D	55
18	Cactus Avenue	West of Frederick Street	5D	55
19	Cactus Avenue	East of Frederick Street	5D	55
20	Cactus Avenue	West of Graham Street	5D	55
21	Cactus Avenue	East of Graham Street	5D	55
22	Cactus Avenue	West of Heacock Street	5D	55
23	Cactus Avenue	East of Heacock Street	4D	55
24	Cactus Avenue	West of Indian Street	4D	55
25	Cactus Avenue	East of Indian Street	4D	55
26	Cactus Avenue	West of Perris Boulevard	4D	55
27	Cactus Avenue	East of Perris Boulevard	4D	55
28	Cactus Avenue	East of Kitching Street	4D	55
29	John F. Kennedy Drive	West of Heacock Street	4D	55
30	John F. Kennedy Drive	East of Heacock Street	3D	55
31	John F. Kennedy Drive	West of Indian Street	4D	55
32	John F. Kennedy Drive	East of Indian Street	4D	55
33	John F. Kennedy Drive	West of Perris Boulevard	4D	55
34	John F. Kennedy Drive	East of Perris Boulevard	4D	55
35	John F. Kennedy Drive	West of Kitching Street	4D	55
36	John F. Kennedy Drive	East of Kitching Street	4D	55
37	Gentian Avenue	West of Indian Street	4U	45
38	Gentian Avenue	East of Perris Boulevard	2U	40

ID	Roadway	Segment	Roadway Section	Vehicle Speed (MPH)
39	Santiago Drive	East of Perris Boulevard	2U	40
40	Iris Avenue	West of Indian Street	2U	40
41	Iris Avenue	East of Indian Street	3D	55
42	Iris Avenue	West of Perris Boulevard	4D	55
43	Iris Avenue	East of Perris Boulevard	4D	55
44	Iris Avenue	West of Kitching Street	4D	55
45	Iris Avenue	East of Kitching Street	6D	55
46	Iris Avenue	West of Lasselle Street	6D	55
47	Iris Avenue	East of Lasselle Street	6D	55
48	Krameria Avenue	East of Indian Street	2D	45
49	Krameria Avenue	West of Perris Boulevard	2U	40
50	Krameria Avenue	East of Perris Boulevard	4D	55
51	Harley Knox Boulevard	West of Webster Avenue	2D	45
52	Harley Knox Boulevard	East of Webster Avenue	2D	45
53	Harley Knox Boulevard	West of Indian Street	3D	55
54	Harley Knox Boulevard	East of Indian Street	3D	55
55	Harley Knox Boulevard	West of Perris Boulevard	2D	45
56	Ramona Expressway	West of Perris Boulevard	6D	55
57	Ramona Expressway	East of Perris Boulevard	6D	55
58	Frederick Street	North of Cactus Avenue	4D	55
59	Heacock Street	North of Alessandro Boulevard	4D	55
60	Heacock Street	North of Cactus Avenue	4D	55
61	Indian Street	North of Cottonwood Avenue	2U	40
62	Indian Street	North of Alessandro Boulevard	3D	55
63	Indian Street	North of Cactus Avenue	4D	55
64	Indian Street	South of John F. Kennedy Drive	4D	55
65	Indian Street	North of Gentian Avenue	2U	40
66	Indian Street	South of Iris Avenue	2U	40
67	Indian Street	North of Krameria Avenue	2U	40
68	Indian Street	South of Krameria Avenue	2U	40
69	Indian Street	South of Harley Knox Boulevard	4D	55
70	Perris Boulevard	North of SR-60 WB Ramps	6D	55
71	Perris Boulevard	SR-60 WB Ramps to Sunnymead Boulevard	7D	55
72	Perris Boulevard	South of Sunnymead Boulevard	4D	55
73	Perris Boulevard	North of Eucalyptus Avenue	4D	55
74	Perris Boulevard	South of Eucalyptus Avenue	4D	55
75	Perris Boulevard	North of Cottonwood Avenue	4D	55
76	Perris Boulevard	South of Cottonwood Avenue	4D	55
77	Perris Boulevard	North of Alessandro Boulevard	4D	55

ID	Roadway	Segment	Roadway Section	Vehicle Speed (MPH)
78	Perris Boulevard	South of Alessandro Boulevard	4D	55
79	Perris Boulevard	North of Cactus Avenue	4D	55
80	Perris Boulevard	South of Cactus Avenue	6D	55
81	Perris Boulevard	North of John F. Kennedy Drive	6D	55
82	Perris Boulevard	South of John F. Kennedy Drive	6D	55
83	Perris Boulevard	North of Gentian Avenue	6D	55
84	Perris Boulevard	Gentian Avenue to Driveway 3	6D	55
85	Perris Boulevard	Driveway 3 to Driveway 4	6D	55
86	Perris Boulevard	Driveway 4 to Santiago Drive	6D	55
87	Perris Boulevard	Santiago Drive to Iris Avenue	6D	55
88	Perris Boulevard	South of Iris Avenue	6D	55
89	Perris Boulevard	North of Krameria Avenue	6D	55
90	Perris Boulevard	South of Krameria Avenue	6D	55
91	Perris Boulevard	North of San Michele Road	6D	55
92	Perris Boulevard	San Michele Road to Nandina Avenue	6D	55
93	Perris Boulevard	South of Nandina Avenue	6D	55
94	Perris Boulevard	North of Harley Knox Boulevard	2D	45
95	Perris Boulevard	South of Harley Knox Boulevard	2D	45
96	Perris Boulevard	North of Ramona Expressway	3D	55
97	Perris Boulevard	South of Ramona Expressway	5D	55
98	Kitching Street	North of Cactus Avenue	4D	55
99	Kitching Street	South of Cactus Avenue	2U	40
100	Kitching Street	North of John F. Kennedy Drive	2U	40
101	Kitching Street	South of John F. Kennedy Drive	2U	40
102	Kitching Street	North of Iris Avenue	4D	55
103	Kitching Street	South of Iris Avenue	4U	45
104	Lasselle Street	North of Iris Avenue	4D	55
105	Lasselle Street	South of Iris Avenue	4D	55

TABLE 6-2: AVERAGE DAILY TRAFFIC VOLUMES

ID	Roadway	Segment	Average Daily Traffic					
			Existing		Year 2018		Year 2035	
			No Project	With Project	No Project	With Project	No Project	With Project
1	Sunnymead Boulevard	Perris Boulevard to SR-60 EB On-Ramp	17,160	17,256	21,348	21,444	29,000	29,096
2	Eucalyptus Avenue	East of Perris Boulevard	6,876	7,068	8,222	8,414	15,000	15,096
3	Cottonwood Avenue	West of Indian Street	9,720	9,912	10,878	11,070	15,760	15,952
4	Cottonwood Avenue	East of Indian Street	7,836	8,220	8,814	9,198	13,049	13,145
5	Cottonwood Avenue	West of Perris Boulevard	6,708	7,286	8,608	9,186	20,000	20,096
6	Cottonwood Avenue	East of Perris Boulevard	7,668	7,956	9,332	9,620	18,000	18,192
7	Alessandro Boulevard	West of Heacock Street	27,312	27,697	31,940	32,325	54,000	54,384
8	Alessandro Boulevard	East of Heacock Street	26,004	26,677	29,918	30,591	48,000	48,192
9	Alessandro Boulevard	West of Indian Street	23,424	24,098	27,333	28,007	46,000	46,192
10	Alessandro Boulevard	East of Indian Street	22,836	23,606	26,382	27,152	43,000	43,096
11	Alessandro Boulevard	West of Perris Boulevard	21,960	22,826	25,596	26,462	43,000	43,096
12	Alessandro Boulevard	East of Perris Boulevard	18,000	18,288	22,289	22,577	46,000	46,096
13	Cactus Avenue	West of I-215 Freeway	12,576	12,672	27,804	27,900	41,904	42,000
14	Cactus Avenue	I-215 SB Ramps to I-215 NB Ramps	22,548	22,740	42,604	42,796	46,904	47,000
15	Cactus Avenue	East of I-215 NB Ramps	34,644	34,932	50,212	50,500	65,412	65,700
16	Cactus Avenue	West of Elsworth Street	34,092	34,380	57,312	57,600	63,112	63,400
17	Cactus Avenue	East of Elsworth Street	30,420	30,708	53,212	53,500	58,162	58,450
18	Cactus Avenue	West of Frederick Street	29,508	29,796	54,812	55,100	60,293	60,581
19	Cactus Avenue	East of Frederick Street	32,544	33,024	55,620	56,100	62,358	62,838
20	Cactus Avenue	West of Graham Street	31,536	32,018	53,718	54,200	59,090	59,572
21	Cactus Avenue	East of Graham Street	26,232	26,714	42,418	42,900	54,660	55,142
22	Cactus Avenue	West of Heacock Street	26,112	26,594	38,371	38,853	50,288	50,768
23	Cactus Avenue	East of Heacock Street	15,936	16,514	28,027	28,605	42,979	43,555
24	Cactus Avenue	West of Indian Street	15,468	16,046	25,148	25,726	38,986	39,564
25	Cactus Avenue	East of Indian Street	16,392	17,162	22,999	23,769	39,331	39,331
26	Cactus Avenue	West of Perris Boulevard	14,064	14,834	20,522	21,292	37,000	37,000
27	Cactus Avenue	East of Perris Boulevard	13,776	14,064	19,696	19,984	32,000	32,096
28	Cactus Avenue	East of Kitching Street	10,956	11,244	15,229	15,517	24,829	25,117
29	John F. Kennedy Drive	West of Heacock Street	8,040	8,136	9,414	9,510	16,000	16,096
30	John F. Kennedy Drive	East of Heacock Street	10,044	10,140	11,089	11,185	15,066	15,451
31	John F. Kennedy Drive	West of Indian Street	9,036	9,228	10,830	11,022	19,562	20,044
32	John F. Kennedy Drive	East of Indian Street	9,108	9,492	11,036	11,420	21,104	21,200
33	John F. Kennedy Drive	West of Perris Boulevard	9,048	9,530	11,481	11,963	25,800	25,800
34	John F. Kennedy Drive	East of Perris Boulevard	9,144	10,106	12,099	13,061	30,100	31,352
35	John F. Kennedy Drive	West of Kitching Street	8,280	9,242	11,096	12,058	28,872	30,026

ID	Roadway	Segment	Average Daily Traffic					
			Existing		Year 2018		Year 2035	
			No Project	With Project	No Project	With Project	No Project	With Project
36	John F. Kennedy Drive	East of Kitching Street	5,796	6,084	8,210	8,498	26,536	26,824
37	Gentian Avenue	West of Indian Street	1,584	1,680	1,870	1,966	3,000	3,288
38	Gentian Avenue	East of Perris Boulevard	1,968	2,160	2,675	2,867	7,500	7,596
39	Santiago Drive	East of Perris Boulevard	2,460	2,652	3,140	3,332	7,006	7,198
40	Iris Avenue	West of Indian Street	9,840	10,032	10,997	11,189	15,951	15,951
41	Iris Avenue	East of Indian Street	12,504	12,888	13,988	14,372	20,480	20,576
42	Iris Avenue	West of Perris Boulevard	11,988	12,566	14,392	14,970	26,600	26,792
43	Iris Avenue	East of Perris Boulevard	15,264	16,612	17,459	18,807	26,319	27,571
44	Iris Avenue	West of Kitching Street	18,480	19,634	20,967	22,121	31,148	32,206
45	Iris Avenue	East of Kitching Street	18,300	19,262	22,059	23,021	40,764	41,630
46	Iris Avenue	West of Lasselle Street	16,524	17,293	19,988	20,757	37,500	38,173
47	Iris Avenue	East of Lasselle Street	19,404	19,789	23,298	23,683	43,000	43,385
48	Krameria Avenue	East of Indian Street	2,640	2,736	3,406	3,502	8,000	8,096
49	Krameria Avenue	West of Perris Boulevard	3,300	3,396	4,482	4,578	12,593	12,689
50	Krameria Avenue	East of Perris Boulevard	7,560	7,752	9,042	9,234	16,429	16,621
51	Harley Knox Boulevard	West of Webster Avenue	9,300	9,588	32,903	33,191	39,000	39,288
52	Harley Knox Boulevard	East of Webster Avenue	9,300	9,876	32,925	33,501	39,000	39,576
53	Harley Knox Boulevard	West of Indian Street	9,552	10,130	31,100	31,678	36,410	36,988
54	Harley Knox Boulevard	East of Indian Street	5,388	6,062	12,600	13,274	34,500	34,694
55	Harley Knox Boulevard	West of Perris Boulevard	4,584	5,258	12,600	13,274	29,500	29,694
56	Ramona Expressway	West of Perris Boulevard	28,620	28,812	37,300	37,492	43,400	43,496
57	Ramona Expressway	East of Perris Boulevard	25,080	25,465	34,500	34,885	45,100	45,485
58	Frederick Street	North of Cactus Avenue	5,772	5,964	11,508	11,700	12,659	12,851
59	Heacock Street	North of Alessandro Boulevard	15,336	15,480	16,932	17,220	18,403	18,691
60	Heacock Street	North of Cactus Avenue	11,196	11,292	12,561	12,657	18,000	18,576
61	Indian Street	North of Cottonwood Avenue	7,716	7,908	8,651	8,843	12,570	12,762
62	Indian Street	North of Alessandro Boulevard	10,680	10,776	11,651	11,747	15,087	15,665
63	Indian Street	North of Cactus Avenue	10,992	11,184	12,424	12,616	17,785	18,843
64	Indian Street	South of John F. Kennedy Drive	8,016	8,208	9,156	9,348	12,178	14,392
65	Indian Street	North of Gentian Avenue	5,964	6,060	7,176	7,272	11,244	13,458
66	Indian Street	South of Iris Avenue	4,260	4,452	5,194	5,386	9,425	10,194
67	Indian Street	North of Krameria Avenue	4,392	4,584	5,656	5,848	12,600	13,368
68	Indian Street	South of Krameria Avenue	2,040	2,136	3,382	3,478	18,200	18,872
69	Indian Street	South of Harley Knox Boulevard	4,344	4,440	7,700	7,796	29,500	29,596
70	Perris Boulevard	North of SR-60 WB Ramps	30,480	30,672	34,739	34,931	54,000	54,192
71	Perris Boulevard	SR-60 WB Ramps to Sunnymead Boulevard	33,072	33,360	38,972	39,260	42,000	42,288
72	Perris Boulevard	South of Sunnymead Boulevard	24,324	24,708	28,304	28,688	47,000	47,384

ID	Roadway	Segment	Average Daily Traffic					
			Existing		Year 2018		Year 2035	
			No Project	With Project	No Project	With Project	No Project	With Project
73	Perris Boulevard	North of Eucalyptus Avenue	20,160	20,545	24,363	24,748	46,000	46,385
74	Perris Boulevard	South of Eucalyptus Avenue	18,168	18,745	23,121	23,698	52,000	52,481
75	Perris Boulevard	North of Cottonwood Avenue	22,800	23,474	27,326	28,000	50,000	50,578
76	Perris Boulevard	South of Cottonwood Avenue	20,280	21,820	24,413	25,953	45,000	45,866
77	Perris Boulevard	North of Alessandro Boulevard	18,036	19,576	22,515	24,055	47,000	47,866
78	Perris Boulevard	South of Alessandro Boulevard	18,252	20,946	22,744	25,438	47,000	48,058
79	Perris Boulevard	North of Cactus Avenue	16,968	19,759	21,088	23,879	43,000	44,155
80	Perris Boulevard	South of Cactus Avenue	17,568	21,417	22,206	26,055	48,000	49,251
81	Perris Boulevard	North of John F. Kennedy Drive	15,312	19,162	19,704	23,554	45,000	46,444
82	Perris Boulevard	South of John F. Kennedy Drive	18,720	24,014	23,886	29,180	52,000	54,696
83	Perris Boulevard	North of Gentian Avenue	16,056	21,350	20,952	26,246	49,000	51,792
84	Perris Boulevard	Gentian Avenue to Driveway 3	16,008	21,014	20,799	25,805	47,000	50,658
85	Perris Boulevard	Driveway 3 to Driveway 4	16,008	19,666	20,727	24,385	47,000	49,887
86	Perris Boulevard	Driveway 4 to Santiago Drive	16,008	19,425	20,727	24,144	47,000	49,888
87	Perris Boulevard	Santiago Drive to Iris Avenue	15,240	19,188	20,255	24,201	50,297	53,281
88	Perris Boulevard	South of Iris Avenue	16,044	18,066	20,634	22,656	47,000	48,541
89	Perris Boulevard	North of Krameria Avenue	14,664	16,684	19,513	21,533	50,000	51,540
90	Perris Boulevard	South of Krameria Avenue	15,540	17,272	20,382	22,114	50,000	51,541
91	Perris Boulevard	North of San Michele Road	16,776	18,316	21,605	23,145	50,000	51,060
92	Perris Boulevard	San Michele Road to Nandina Avenue	15,888	17,428	21,152	22,692	55,000	55,964
93	Perris Boulevard	South of Nandina Avenue	15,828	17,368	26,908	28,448	53,000	53,868
94	Perris Boulevard	North of Harley Knox Boulevard	16,524	18,064	30,600	32,140	53,000	53,868
95	Perris Boulevard	South of Harley Knox Boulevard	15,156	16,022	26,100	26,966	41,000	41,674
96	Perris Boulevard	North of Ramona Expressway	13,572	14,437	24,300	25,165	40,000	40,673
97	Perris Boulevard	South of Ramona Expressway	14,280	14,568	25,500	25,788	31,000	31,192
98	Kitching Street	North of Cactus Avenue	6,276	6,468	7,915	8,107	17,130	17,418
99	Kitching Street	South of Cactus Avenue	7,668	8,148	9,287	9,767	17,235	17,811
100	Kitching Street	North of John F. Kennedy Drive	6,912	7,394	8,821	9,303	19,543	20,217
101	Kitching Street	South of John F. Kennedy Drive	8,340	8,532	9,968	10,160	18,085	18,277
102	Kitching Street	North of Iris Avenue	5,904	6,000	7,405	7,501	15,903	15,999
103	Kitching Street	South of Iris Avenue	7,068	7,164	9,231	9,327	22,790	22,886
104	Lasselle Street	North of Iris Avenue	18,276	18,468	20,373	20,565	29,380	29,476
105	Lasselle Street	South of Iris Avenue	26,292	26,484	28,129	28,321	35,200	35,392

TABLE 6-3: TIME OF DAY VEHICLE SPLITS

Time Period	Vehicle Type		
	Autos	Medium Trucks	Heavy Trucks
Daytime (7am-7pm)	77.5%	84.8%	86.5%
Evening (7pm-10pm)	12.9%	4.9%	2.7%
Nighttime (10pm-7am)	9.6%	10.3%	10.8%
Total:	100.0%	100.0%	100.0%

Source: County of Riverside Office of Industrial Hygiene.

TABLE 6-4: DISTRIBUTION OF TRAFFIC FLOW BY VEHICLE TYPE (VEHICLE MIX)

Total % Traffic Flow			Total
Autos	Medium Trucks	Heavy Trucks	
97.42%	1.84%	0.74%	100%

Source: County of Riverside Office of Industrial Hygiene.

6.3 VIBRATION ASSESSMENT

This analysis focuses on the potential ground-borne vibration associated with vehicular traffic and construction activities. Ground-borne vibration levels from automobile traffic are generally overshadowed by vibration generated by heavy trucks that roll over the same uneven roadway surfaces. However, due to the rapid drop-off rate of ground-borne vibration and the short duration of the associated events, vehicular traffic-induced ground-borne vibration is rarely perceptible beyond the roadway right-of-way, and rarely results in vibration levels that cause damage to buildings in the vicinity.

However, while vehicular traffic is rarely perceptible, construction has the potential to result in varying degrees of temporary ground vibration, depending on the specific construction activities and equipment used. Ground vibration levels associated with various types of construction equipment are summarized on Table 6-5. Based on the representative vibration levels presented for various construction equipment types, it is possible to estimate the human response (annoyance) using the following vibration assessment methods defined by the FTA. To describe the human response (annoyance) associated with vibration impacts the FTA provides the following equation: $L_{VdB}(D) = L_{VdB}(25\ ft) - 30\log(D/25)$

TABLE 6-5: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	Vibration Decibels (VdB) at 25 feet[1]
Small bulldozer	58
Jackhammer	79
Loaded Trucks	86
Large bulldozer	87

[1] Source::Federal Transit Administration, Transit Noise and Vibration Impact Assessment, May 2006.

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7 OFF-SITE TRANSPORTATION NOISE IMPACTS

To assess the off-site transportation CNEL noise level impacts associated with development of the proposed Project, noise contours were developed based on the *Moreno Valley Walmart Traffic Impact Analysis*.(14) Noise contour boundaries represent the equal levels of noise exposure and are measured in CNEL from the center of the roadway. Noise contours were developed for the following traffic scenarios:

- Existing Without / With Project: This scenario refers to the existing present-day noise conditions, without the Project and with the construction of the proposed Project.
- Year (2018) Without / With Project: This scenario refers to the background noise conditions at future Year 2018 with and without the proposed Project. This scenario corresponds to 2018 conditions, and includes all cumulative projects identified in the Traffic Impact Analysis.
- Year (2035) Without / With Project: This scenario refers to the background noise conditions at future Year 2035 with and without the proposed Project. This scenario corresponds to 2035 conditions, and includes all cumulative projects identified in the Traffic Impact Analysis.

7.1 OFF-SITE TRAFFIC NOISE CONTOURS

To quantify the Project's traffic noise impacts on the surrounding areas, the changes in traffic noise levels on 105 roadway segments surrounding the Project were calculated based on the changes in the average daily traffic volumes. The noise contours were used to assess the Project's incremental traffic-related noise impacts at land uses adjacent to roadways conveying Project traffic. Based on the noise impact significance criteria described in Section 4.2, a substantial temporary or permanent increase in ambient noise conditions would occur if Project-source noise would:

- Result in an perceptible increase in noise levels (3.0 dBA or greater) that would cause the maximum acceptable ambient condition (65 dBA daytime/60 dBA nighttime for stationary/area-sources; 65 dBA CNEL for vehicular sources) to be exceeded; or

- Result in an increase of 1.5 dBA in ambient conditions when the noise environment at receptor land uses already exceeds the maximum acceptable ambient noise condition (65 dBA daytime/60 dBA nighttime for stationary/area-sources; 65 dBA CNEL for vehicular sources).

Noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway for the 70, 65, 60 and 55 dBA noise levels. The noise contours do not take into account the effect of any existing noise barriers or topography that may affect ambient noise levels. In addition, since the noise contours reflect modeling of vehicular noise along area roadways, they appropriately do not reflect noise contribution from the surrounding commercial and industrial uses within the Project study area. Tables 7-1 through 7-6 presents a summary of the unmitigated exterior traffic noise levels for the 105 study area roadway segments analyzed from the without Project to the with Project conditions in each of three timeframes: Existing; Year 2018 and Year 2035 conditions. Appendix 7.1 includes a summary of the traffic noise level contours for each of the six traffic scenarios.

TABLE 7-1: EXISTING WITHOUT PROJECT CONDITIONS NOISE CONTOURS

ID	Road	Segment	CNEL at 100 Feet (dBA)	Distance to Contour (Feet)			
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
1	Sunnymead Boulevard	Perris Boulevard to SR-60 EB On-Ramp	66.6	59	128	275	593
2	Eucalyptus Avenue	East of Perris Boulevard	59.1	RW	RW	87	187
3	Cottonwood Avenue	West of Indian Street	61.9	RW	62	133	287
4	Cottonwood Avenue	East of Indian Street	60.9	RW	RW	115	249
5	Cottonwood Avenue	West of Perris Boulevard	60.3	RW	RW	104	224
6	Cottonwood Avenue	East of Perris Boulevard	59.5	RW	RW	93	201
7	Alessandro Boulevard	West of Heacock Street	69.4	91	197	424	913
8	Alessandro Boulevard	East of Heacock Street	69.2	88	190	410	883
9	Alessandro Boulevard	West of Indian Street	68.7	82	177	382	824
10	Alessandro Boulevard	East of Indian Street	68.6	81	175	376	810
11	Alessandro Boulevard	West of Perris Boulevard	68.5	79	170	366	789
12	Alessandro Boulevard	East of Perris Boulevard	66.8	61	132	284	613
13	Cactus Avenue	West of I-215 Freeway	65.3	RW	104	224	482
14	Cactus Avenue	I-215 SB Ramps to I-215 NB Ramps	67.8	71	153	330	712
15	Cactus Avenue	East of I-215 NB Ramps	69.7	95	204	440	948
16	Cactus Avenue	West of Elsworth Street	69.6	94	202	435	938
17	Cactus Avenue	East of Elsworth Street	69.9	98	211	455	981
18	Cactus Avenue	West of Frederick Street	69.7	96	207	446	961
19	Cactus Avenue	East of Frederick Street	70.2	103	221	476	1,026
20	Cactus Avenue	West of Graham Street	70.0	100	216	466	1,005
21	Cactus Avenue	East of Graham Street	69.2	89	191	412	888
22	Cactus Avenue	West of Heacock Street	69.2	89	191	411	886
23	Cactus Avenue	East of Heacock Street	66.3	56	122	262	565
24	Cactus Avenue	West of Indian Street	66.2	55	119	257	554
25	Cactus Avenue	East of Indian Street	66.4	58	124	267	576
26	Cactus Avenue	West of Perris Boulevard	65.7	RW	112	241	520
27	Cactus Avenue	East of Perris Boulevard	65.6	RW	110	238	513
28	Cactus Avenue	East of Kitching Street	64.7	RW	95	204	440
29	John F. Kennedy Drive	West of Heacock Street	63.3	RW	77	166	358
30	John F. Kennedy Drive	East of Heacock Street	64.3	RW	89	193	415
31	John F. Kennedy Drive	West of Indian Street	63.8	RW	83	180	387
32	John F. Kennedy Drive	East of Indian Street	63.9	RW	84	181	389
33	John F. Kennedy Drive	West of Perris Boulevard	63.8	RW	83	180	387
34	John F. Kennedy Drive	East of Perris Boulevard	63.9	RW	84	181	390
35	John F. Kennedy Drive	West of Kitching Street	63.4	RW	79	169	365
36	John F. Kennedy Drive	East of Kitching Street	61.9	RW	62	134	288

ID	Road	Segment	CNEL at 100 Feet (dBA)	Distance to Contour (Feet)			
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
37	Gentian Avenue	West of Indian Street	54.1	RW	RW	RW	86
38	Gentian Avenue	East of Perris Boulevard	53.6	RW	RW	RW	81
39	Santiago Drive	East of Perris Boulevard	54.6	RW	RW	RW	94
40	Iris Avenue	West of Indian Street	60.6	RW	RW	110	237
41	Iris Avenue	East of Indian Street	65.2	RW	104	223	481
42	Iris Avenue	West of Perris Boulevard	65.0	RW	101	217	467
43	Iris Avenue	East of Perris Boulevard	66.1	55	118	255	549
44	Iris Avenue	West of Kitching Street	66.9	62	134	289	624
45	Iris Avenue	East of Kitching Street	67.7	70	151	324	699
46	Iris Avenue	West of Lasselle Street	67.2	65	141	303	653
47	Iris Avenue	East of Lasselle Street	67.9	73	157	337	727
48	Krameria Avenue	East of Indian Street	56.2	RW	RW	56	120
49	Krameria Avenue	West of Perris Boulevard	55.9	RW	RW	RW	114
50	Krameria Avenue	East of Perris Boulevard	63.0	RW	74	159	344
51	Harley Knox Boulevard	West of Webster Avenue	61.7	RW	60	129	279
52	Harley Knox Boulevard	East of Webster Avenue	61.7	RW	60	129	279
53	Harley Knox Boulevard	West of Indian Street	64.1	RW	87	186	402
54	Harley Knox Boulevard	East of Indian Street	61.6	RW	59	127	274
55	Harley Knox Boulevard	West of Perris Boulevard	58.6	RW	RW	81	174
56	Ramona Expressway	West of Perris Boulevard	69.6	94	203	437	942
57	Ramona Expressway	East of Perris Boulevard	69.0	86	186	400	862
58	Frederick Street	North of Cactus Avenue	61.9	RW	62	133	287
59	Heacock Street	North of Alessandro Boulevard	66.1	55	119	256	551
60	Heacock Street	North of Cactus Avenue	64.7	RW	96	207	446
61	Indian Street	North of Cottonwood Avenue	59.6	RW	RW	94	201
62	Indian Street	North of Alessandro Boulevard	64.5	RW	93	201	433
63	Indian Street	North of Cactus Avenue	64.7	RW	95	205	441
64	Indian Street	South of John F. Kennedy Drive	63.3	RW	77	166	357
65	Indian Street	North of Gentian Avenue	58.4	RW	RW	79	170
66	Indian Street	South of Iris Avenue	57.0	RW	RW	63	136
67	Indian Street	North of Krameria Avenue	57.1	RW	RW	64	138
68	Indian Street	South of Krameria Avenue	53.8	RW	RW	RW	83
69	Indian Street	South of Harley Knox Boulevard	60.6	RW	RW	110	238
70	Perris Boulevard	North of SR-60 WB Ramps	69.9	98	212	456	982
71	Perris Boulevard	SR-60 WB Ramps to Sunnymead Blvd.	70.2	104	223	481	1,037
72	Perris Boulevard	South of Sunnymead Boulevard	68.1	75	161	348	749
73	Perris Boulevard	North of Eucalyptus Avenue	67.3	66	142	307	661
74	Perris Boulevard	South of Eucalyptus Avenue	66.8	62	133	286	617

ID	Road	Segment	CNEL at 100 Feet (dBA)	Distance to Contour (Feet)			
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
75	Perris Boulevard	North of Cottonwood Avenue	67.8	72	155	333	717
76	Perris Boulevard	South of Cottonwood Avenue	67.3	66	143	308	663
77	Perris Boulevard	North of Alessandro Boulevard	66.8	61	132	285	614
78	Perris Boulevard	South of Alessandro Boulevard	66.9	62	133	287	618
79	Perris Boulevard	North of Cactus Avenue	66.6	59	127	273	589
80	Perris Boulevard	South of Cactus Avenue	67.5	68	147	316	680
81	Perris Boulevard	North of John F. Kennedy Drive	66.9	62	134	288	621
82	Perris Boulevard	South of John F. Kennedy Drive	67.8	71	153	329	710
83	Perris Boulevard	North of Gentian Avenue	67.1	64	138	297	640
84	Perris Boulevard	Gentian Avenue to Driveway 3	67.1	64	138	297	639
85	Perris Boulevard	Driveway 3 to Driveway 4	67.1	64	138	297	639
86	Perris Boulevard	Driveway 4 to Santiago Drive	67.1	64	138	297	639
87	Perris Boulevard	Santiago Drive to Iris Avenue	66.9	62	133	287	619
88	Perris Boulevard	South of Iris Avenue	67.1	64	138	297	640
89	Perris Boulevard	North of Krameria Avenue	66.7	60	130	280	603
90	Perris Boulevard	South of Krameria Avenue	67.0	63	135	291	627
91	Perris Boulevard	North of San Michele Road	67.3	66	142	306	659
92	Perris Boulevard	San Michele Road to Nandina Avenue	67.1	64	137	295	636
93	Perris Boulevard	South of Nandina Avenue	67.0	63	137	294	634
94	Perris Boulevard	North of Harley Knox Boulevard	64.2	RW	88	190	409
95	Perris Boulevard	South of Harley Knox Boulevard	63.8	RW	83	179	386
96	Perris Boulevard	North of Ramona Expressway	65.6	RW	109	236	508
97	Perris Boulevard	South of Ramona Expressway	66.6	59	128	275	592
98	Kitching Street	North of Cactus Avenue	62.2	RW	65	141	304
99	Kitching Street	South of Cactus Avenue	59.5	RW	RW	93	201
100	Kitching Street	North of John F. Kennedy Drive	59.1	RW	RW	87	187
101	Kitching Street	South of John F. Kennedy Drive	59.9	RW	RW	98	212
102	Kitching Street	North of Iris Avenue	62.0	RW	63	135	291
103	Kitching Street	South of Iris Avenue	60.5	RW	RW	109	234
104	Lasselle Street	North of Iris Avenue	66.9	62	133	287	619
105	Lasselle Street	South of Iris Avenue	68.5	79	170	366	789

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-2: EXISTING WITH PROJECT CONDITIONS NOISE CONTOURS

ID	Road	Segment	CNEL at 100 Feet (dBA)	Distance to Contour (Feet)			
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
1	Sunnymead Boulevard	Perris Boulevard to SR-60 EB On-Ramp	66.6	60	128	277	596
2	Eucalyptus Avenue	East of Perris Boulevard	59.2	RW	RW	88	190
3	Cottonwood Avenue	West of Indian Street	62.0	RW	63	135	291
4	Cottonwood Avenue	East of Indian Street	61.1	RW	55	119	257
5	Cottonwood Avenue	West of Perris Boulevard	60.6	RW	RW	110	237
6	Cottonwood Avenue	East of Perris Boulevard	59.7	RW	RW	95	206
7	Alessandro Boulevard	West of Heacock Street	69.5	92	198	428	921
8	Alessandro Boulevard	East of Heacock Street	69.3	90	194	417	898
9	Alessandro Boulevard	West of Indian Street	68.9	84	181	390	840
10	Alessandro Boulevard	East of Indian Street	68.8	83	178	384	828
11	Alessandro Boulevard	West of Perris Boulevard	68.6	81	174	376	810
12	Alessandro Boulevard	East of Perris Boulevard	66.9	62	133	287	619
13	Cactus Avenue	West of I-215 Freeway	65.3	RW	104	225	485
14	Cactus Avenue	I-215 SB Ramps to I-215 NB Ramps	67.8	72	154	332	716
15	Cactus Avenue	East of I-215 NB Ramps	69.7	95	205	442	953
16	Cactus Avenue	West of Elsworth Street	69.6	94	203	438	943
17	Cactus Avenue	East of Elsworth Street	69.9	99	213	458	987
18	Cactus Avenue	West of Frederick Street	69.8	97	208	449	967
19	Cactus Avenue	East of Frederick Street	70.2	104	223	481	1,036
20	Cactus Avenue	West of Graham Street	70.1	101	219	471	1,015
21	Cactus Avenue	East of Graham Street	69.3	90	194	417	899
22	Cactus Avenue	West of Heacock Street	69.3	90	193	416	897
23	Cactus Avenue	East of Heacock Street	66.4	58	125	269	579
24	Cactus Avenue	West of Indian Street	66.3	57	122	263	568
25	Cactus Avenue	East of Indian Street	66.6	59	128	275	594
26	Cactus Avenue	West of Perris Boulevard	66.0	RW	116	250	539
27	Cactus Avenue	East of Perris Boulevard	65.7	RW	112	241	520
28	Cactus Avenue	East of Kitching Street	64.8	RW	96	208	448
29	John F. Kennedy Drive	West of Heacock Street	63.4	RW	78	168	361
30	John F. Kennedy Drive	East of Heacock Street	64.3	RW	90	194	418
31	John F. Kennedy Drive	West of Indian Street	63.9	RW	85	182	392
32	John F. Kennedy Drive	East of Indian Street	64.0	RW	86	186	400
33	John F. Kennedy Drive	West of Perris Boulevard	64.0	RW	86	186	401
34	John F. Kennedy Drive	East of Perris Boulevard	64.3	RW	90	194	417
35	John F. Kennedy Drive	West of Kitching Street	63.9	RW	85	182	393
36	John F. Kennedy Drive	East of Kitching Street	62.1	RW	64	138	297

ID	Road	Segment	CNEL at 100 Feet (dBA)	Distance to Contour (Feet)			
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
37	Gentian Avenue	West of Indian Street	54.3	RW	RW	RW	90
38	Gentian Avenue	East of Perris Boulevard	54.0	RW	RW	RW	86
39	Santiago Drive	East of Perris Boulevard	54.9	RW	RW	RW	99
40	Iris Avenue	West of Indian Street	60.7	RW	RW	111	240
41	Iris Avenue	East of Indian Street	65.4	RW	106	228	490
42	Iris Avenue	West of Perris Boulevard	65.2	RW	104	224	482
43	Iris Avenue	East of Perris Boulevard	66.5	58	125	270	581
44	Iris Avenue	West of Kitching Street	67.2	65	140	301	649
45	Iris Avenue	East of Kitching Street	67.9	72	156	336	723
46	Iris Avenue	West of Lasselle Street	67.4	67	145	312	673
47	Iris Avenue	East of Lasselle Street	68.0	74	159	342	736
48	Krameria Avenue	East of Indian Street	56.4	RW	RW	57	123
49	Krameria Avenue	West of Perris Boulevard	56.0	RW	RW	RW	117
50	Krameria Avenue	East of Perris Boulevard	63.2	RW	75	162	349
51	Harley Knox Boulevard	West of Webster Avenue	61.8	RW	61	132	285
52	Harley Knox Boulevard	East of Webster Avenue	61.9	RW	63	135	290
53	Harley Knox Boulevard	West of Indian Street	64.3	RW	90	194	418
54	Harley Knox Boulevard	East of Indian Street	62.1	RW	64	138	297
55	Harley Knox Boulevard	West of Perris Boulevard	59.2	RW	RW	88	191
56	Ramona Expressway	West of Perris Boulevard	69.6	95	204	439	946
57	Ramona Expressway	East of Perris Boulevard	69.1	87	188	404	871
58	Frederick Street	North of Cactus Avenue	62.0	RW	63	136	293
59	Heacock Street	North of Alessandro Boulevard	66.2	55	119	257	554
60	Heacock Street	North of Cactus Avenue	64.8	RW	97	208	449
61	Indian Street	North of Cottonwood Avenue	59.7	RW	RW	95	205
62	Indian Street	North of Alessandro Boulevard	64.6	RW	94	202	435
63	Indian Street	North of Cactus Avenue	64.7	RW	96	207	446
64	Indian Street	South of John F. Kennedy Drive	63.4	RW	78	168	363
65	Indian Street	North of Gentian Avenue	58.5	RW	RW	80	171
66	Indian Street	South of Iris Avenue	57.2	RW	RW	65	140
67	Indian Street	North of Krameria Avenue	57.3	RW	RW	66	142
68	Indian Street	South of Krameria Avenue	54.0	RW	RW	RW	86
69	Indian Street	South of Harley Knox Boulevard	60.7	RW	RW	112	241
70	Perris Boulevard	North of SR-60 WB Ramps	69.9	99	212	458	986
71	Perris Boulevard	SR-60 WB Ramps to Sunnymead Blvd.	70.3	104	225	484	1,043
72	Perris Boulevard	South of Sunnymead Boulevard	68.2	76	163	351	757
73	Perris Boulevard	North of Eucalyptus Avenue	67.4	67	144	311	669
74	Perris Boulevard	South of Eucalyptus Avenue	67.0	63	136	292	630

ID	Road	Segment	CNEL at 100 Feet (dBA)	Distance to Contour (Feet)			
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
75	Perris Boulevard	North of Cottonwood Avenue	68.0	73	158	339	731
76	Perris Boulevard	South of Cottonwood Avenue	67.6	70	150	323	697
77	Perris Boulevard	North of Alessandro Boulevard	67.2	65	140	301	648
78	Perris Boulevard	South of Alessandro Boulevard	67.5	68	146	315	678
79	Perris Boulevard	North of Cactus Avenue	67.2	65	140	303	652
80	Perris Boulevard	South of Cactus Avenue	68.3	78	167	360	776
81	Perris Boulevard	North of John F. Kennedy Drive	67.9	72	155	334	721
82	Perris Boulevard	South of John F. Kennedy Drive	68.8	84	180	389	838
83	Perris Boulevard	North of Gentian Avenue	68.3	77	167	359	774
84	Perris Boulevard	Gentian Avenue to Driveway 3	68.3	77	165	356	766
85	Perris Boulevard	Driveway 3 to Driveway 4	68.0	73	158	340	733
86	Perris Boulevard	Driveway 4 to Santiago Drive	67.9	73	157	338	727
87	Perris Boulevard	Santiago Drive to Iris Avenue	67.9	72	155	335	721
88	Perris Boulevard	South of Iris Avenue	67.6	69	149	322	693
89	Perris Boulevard	North of Krameria Avenue	67.3	66	142	305	657
90	Perris Boulevard	South of Krameria Avenue	67.4	67	145	312	672
91	Perris Boulevard	North of San Michele Road	67.7	70	151	325	699
92	Perris Boulevard	San Michele Road to Nandina Avenue	67.5	68	146	314	676
93	Perris Boulevard	South of Nandina Avenue	67.4	67	145	313	675
94	Perris Boulevard	North of Harley Knox Boulevard	64.6	RW	94	201	434
95	Perris Boulevard	South of Harley Knox Boulevard	64.0	RW	86	186	401
96	Perris Boulevard	North of Ramona Expressway	65.9	RW	114	246	529
97	Perris Boulevard	South of Ramona Expressway	66.7	60	129	279	600
98	Kitching Street	North of Cactus Avenue	62.4	RW	67	144	310
99	Kitching Street	South of Cactus Avenue	59.8	RW	RW	97	209
100	Kitching Street	North of John F. Kennedy Drive	59.4	RW	RW	91	196
101	Kitching Street	South of John F. Kennedy Drive	60.0	RW	RW	100	215
102	Kitching Street	North of Iris Avenue	62.0	RW	63	137	295
103	Kitching Street	South of Iris Avenue	60.6	RW	RW	110	236
104	Lasselle Street	North of Iris Avenue	66.9	62	134	289	623
105	Lasselle Street	South of Iris Avenue	68.5	79	171	368	793

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-3: YEAR 2018 WITHOUT PROJECT CONDITIONS NOISE CONTOURS

ID	Road	Segment	CNEL at 100 Feet (dBA)	Distance to Contour (Feet)			
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
1	Sunnymead Boulevard	Perris Boulevard to SR-60 EB On-Ramp	67.5	69	148	319	687
2	Eucalyptus Avenue	East of Perris Boulevard	59.8	RW	RW	98	210
3	Cottonwood Avenue	West of Indian Street	62.4	RW	67	144	310
4	Cottonwood Avenue	East of Indian Street	61.4	RW	58	125	269
5	Cottonwood Avenue	West of Perris Boulevard	61.3	RW	57	123	265
6	Cottonwood Avenue	East of Perris Boulevard	60.4	RW	RW	106	229
7	Alessandro Boulevard	West of Heacock Street	70.1	101	218	470	1,013
8	Alessandro Boulevard	East of Heacock Street	69.8	97	209	450	970
9	Alessandro Boulevard	West of Indian Street	69.4	91	197	424	913
10	Alessandro Boulevard	East of Indian Street	69.3	89	192	414	892
11	Alessandro Boulevard	West of Perris Boulevard	69.1	87	188	406	874
12	Alessandro Boulevard	East of Perris Boulevard	67.7	71	152	328	707
13	Cactus Avenue	West of I-215 Freeway	68.7	82	176	380	819
14	Cactus Avenue	I-215 SB Ramps to I-215 NB Ramps	70.6	109	234	505	1,088
15	Cactus Avenue	East of I-215 NB Ramps	71.3	121	262	564	1,214
16	Cactus Avenue	West of Elsworth Street	71.8	133	286	616	1,326
17	Cactus Avenue	East of Elsworth Street	72.3	142	307	661	1,424
18	Cactus Avenue	West of Frederick Street	72.4	145	313	674	1,452
19	Cactus Avenue	East of Frederick Street	72.5	147	316	681	1,466
20	Cactus Avenue	West of Graham Street	72.3	143	309	665	1,433
21	Cactus Avenue	East of Graham Street	71.3	122	264	568	1,224
22	Cactus Avenue	West of Heacock Street	70.9	114	247	531	1,145
23	Cactus Avenue	East of Heacock Street	68.7	82	177	382	823
24	Cactus Avenue	West of Indian Street	68.3	77	165	355	766
25	Cactus Avenue	East of Indian Street	67.9	72	155	335	721
26	Cactus Avenue	West of Perris Boulevard	67.4	67	144	310	669
27	Cactus Avenue	East of Perris Boulevard	67.2	65	140	302	651
28	Cactus Avenue	East of Kitching Street	66.1	55	118	254	548
29	John F. Kennedy Drive	West of Heacock Street	64.0	RW	86	185	398
30	John F. Kennedy Drive	East of Heacock Street	64.7	RW	96	206	444
31	John F. Kennedy Drive	West of Indian Street	64.6	RW	94	203	437
32	John F. Kennedy Drive	East of Indian Street	64.7	RW	95	205	442
33	John F. Kennedy Drive	West of Perris Boulevard	64.9	RW	98	211	454
34	John F. Kennedy Drive	East of Perris Boulevard	65.1	RW	101	218	470
35	John F. Kennedy Drive	West of Kitching Street	64.7	RW	96	206	444
36	John F. Kennedy Drive	East of Kitching Street	63.4	RW	78	169	363

ID	Road	Segment	CNEL at 100 Feet (dBA)	Distance to Contour (Feet)			
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
37	Gentian Avenue	West of Indian Street	54.8	RW	RW	RW	97
38	Gentian Avenue	East of Perris Boulevard	55.0	RW	RW	RW	99
39	Santiago Drive	East of Perris Boulevard	55.7	RW	RW	RW	111
40	Iris Avenue	West of Indian Street	61.1	RW	55	118	255
41	Iris Avenue	East of Indian Street	65.7	RW	112	240	518
42	Iris Avenue	West of Perris Boulevard	65.8	RW	114	245	528
43	Iris Avenue	East of Perris Boulevard	66.7	60	129	279	600
44	Iris Avenue	West of Kitching Street	67.5	68	146	315	678
45	Iris Avenue	East of Kitching Street	68.5	79	171	367	792
46	Iris Avenue	West of Lasselle Street	68.0	74	160	344	741
47	Iris Avenue	East of Lasselle Street	68.7	82	177	381	821
48	Krameria Avenue	East of Indian Street	57.3	RW	RW	66	143
49	Krameria Avenue	West of Perris Boulevard	57.2	RW	RW	65	140
50	Krameria Avenue	East of Perris Boulevard	63.8	RW	83	180	387
51	Harley Knox Boulevard	West of Webster Avenue	67.2	65	139	300	647
52	Harley Knox Boulevard	East of Webster Avenue	67.2	65	140	301	648
53	Harley Knox Boulevard	West of Indian Street	69.2	88	190	409	882
54	Harley Knox Boulevard	East of Indian Street	65.3	RW	104	224	483
55	Harley Knox Boulevard	West of Perris Boulevard	63.0	RW	74	158	341
56	Ramona Expressway	West of Perris Boulevard	70.8	112	242	521	1,123
57	Ramona Expressway	East of Perris Boulevard	70.4	107	230	495	1,067
58	Frederick Street	North of Cactus Avenue	64.9	RW	98	211	455
59	Heacock Street	North of Alessandro Boulevard	66.5	59	127	273	588
60	Heacock Street	North of Cactus Avenue	65.2	RW	104	224	482
61	Indian Street	North of Cottonwood Avenue	60.1	RW	RW	101	217
62	Indian Street	North of Alessandro Boulevard	64.9	RW	99	213	458
63	Indian Street	North of Cactus Avenue	65.2	RW	103	222	479
64	Indian Street	South of John F. Kennedy Drive	63.9	RW	84	181	390
65	Indian Street	North of Gentian Avenue	59.2	RW	RW	89	192
66	Indian Street	South of Iris Avenue	57.8	RW	RW	72	155
67	Indian Street	North of Krameria Avenue	58.2	RW	RW	76	164
68	Indian Street	South of Krameria Avenue	56.0	RW	RW	RW	116
69	Indian Street	South of Harley Knox Boulevard	63.1	RW	75	161	348
70	Perris Boulevard	North of SR-60 WB Ramps	70.4	107	231	497	1,071
71	Perris Boulevard	SR-60 WB Ramps to Sunnymead Blvd.	70.9	116	249	537	1,157
72	Perris Boulevard	South of Sunnymead Boulevard	68.8	83	179	385	829
73	Perris Boulevard	North of Eucalyptus Avenue	68.1	75	162	348	750
74	Perris Boulevard	South of Eucalyptus Avenue	67.9	72	156	336	724

ID	Road	Segment	CNEL at 100 Feet (dBA)	Distance to Contour (Feet)			
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
75	Perris Boulevard	North of Cottonwood Avenue	68.6	81	174	376	809
76	Perris Boulevard	South of Cottonwood Avenue	68.1	75	162	348	751
77	Perris Boulevard	North of Alessandro Boulevard	67.8	71	153	330	711
78	Perris Boulevard	South of Alessandro Boulevard	67.8	72	154	332	716
79	Perris Boulevard	North of Cactus Avenue	67.5	68	147	316	681
80	Perris Boulevard	South of Cactus Avenue	68.5	80	171	369	795
81	Perris Boulevard	North of John F. Kennedy Drive	68.0	73	158	341	734
82	Perris Boulevard	South of John F. Kennedy Drive	68.8	83	180	387	835
83	Perris Boulevard	North of Gentian Avenue	68.3	76	165	355	765
84	Perris Boulevard	Gentian Avenue to Driveway 3	68.2	76	164	353	761
85	Perris Boulevard	Driveway 3 to Driveway 4	68.2	76	164	352	759
86	Perris Boulevard	Driveway 4 to Santiago Drive	68.2	76	164	352	759
87	Perris Boulevard	Santiago Drive to Iris Avenue	68.1	75	161	347	748
88	Perris Boulevard	South of Iris Avenue	68.2	76	163	351	757
89	Perris Boulevard	North of Krameria Avenue	67.9	73	157	339	729
90	Perris Boulevard	South of Krameria Avenue	68.1	75	162	349	751
91	Perris Boulevard	North of San Michele Road	68.4	78	168	362	781
92	Perris Boulevard	San Michele Road to Nandina Avenue	68.3	77	166	357	770
93	Perris Boulevard	South of Nandina Avenue	69.3	90	195	419	904
94	Perris Boulevard	North of Harley Knox Boulevard	66.9	62	133	286	617
95	Perris Boulevard	South of Harley Knox Boulevard	66.2	55	120	257	555
96	Perris Boulevard	North of Ramona Expressway	68.1	75	161	347	748
97	Perris Boulevard	South of Ramona Expressway	69.1	87	188	405	872
98	Kitching Street	North of Cactus Avenue	63.2	RW	76	164	354
99	Kitching Street	South of Cactus Avenue	60.4	RW	RW	106	228
100	Kitching Street	North of John F. Kennedy Drive	60.1	RW	RW	102	220
101	Kitching Street	South of John F. Kennedy Drive	60.7	RW	RW	111	239
102	Kitching Street	North of Iris Avenue	63.0	RW	73	157	339
103	Kitching Street	South of Iris Avenue	61.7	RW	60	130	280
104	Lasselle Street	North of Iris Avenue	67.3	67	143	309	665
105	Lasselle Street	South of Iris Avenue	68.7	83	178	383	825

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-4: YEAR 2018 WITH PROJECT CONDITIONS NOISE CONTOURS

ID	Road	Segment	CNEL at 100 Feet (dBA)	Distance to Contour (Feet)			
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
1	Sunnymead Boulevard	Perris Boulevard to SR-60 EB On-Ramp	67.6	69	148	320	689
2	Eucalyptus Avenue	East of Perris Boulevard	59.9	RW	RW	99	213
3	Cottonwood Avenue	West of Indian Street	62.4	RW	67	145	313
4	Cottonwood Avenue	East of Indian Street	61.6	RW	60	128	277
5	Cottonwood Avenue	West of Perris Boulevard	61.6	RW	60	128	277
6	Cottonwood Avenue	East of Perris Boulevard	60.5	RW	RW	108	233
7	Alessandro Boulevard	West of Heacock Street	70.1	102	220	474	1,021
8	Alessandro Boulevard	East of Heacock Street	69.9	98	212	457	984
9	Alessandro Boulevard	West of Indian Street	69.5	93	200	431	928
10	Alessandro Boulevard	East of Indian Street	69.4	91	196	422	909
11	Alessandro Boulevard	West of Perris Boulevard	69.3	89	193	415	894
12	Alessandro Boulevard	East of Perris Boulevard	67.8	71	154	331	713
13	Cactus Avenue	West of I-215 Freeway	68.7	82	177	381	821
14	Cactus Avenue	I-215 SB Ramps to I-215 NB Ramps	70.6	109	235	507	1,091
15	Cactus Avenue	East of I-215 NB Ramps	71.3	122	263	566	1,219
16	Cactus Avenue	West of Elsworth Street	71.9	133	287	618	1,331
17	Cactus Avenue	East of Elsworth Street	72.3	143	308	663	1,429
18	Cactus Avenue	West of Frederick Street	72.5	146	314	676	1,457
19	Cactus Avenue	East of Frederick Street	72.5	147	318	685	1,475
20	Cactus Avenue	West of Graham Street	72.4	144	311	669	1,441
21	Cactus Avenue	East of Graham Street	71.4	123	266	572	1,233
22	Cactus Avenue	West of Heacock Street	70.9	115	249	536	1,154
23	Cactus Avenue	East of Heacock Street	68.8	83	180	387	834
24	Cactus Avenue	West of Indian Street	68.4	78	167	361	777
25	Cactus Avenue	East of Indian Street	68.0	74	159	342	737
26	Cactus Avenue	West of Perris Boulevard	67.5	69	148	318	685
27	Cactus Avenue	East of Perris Boulevard	67.3	66	142	305	657
28	Cactus Avenue	East of Kitching Street	66.2	55	120	258	555
29	John F. Kennedy Drive	West of Heacock Street	64.0	RW	86	186	400
30	John F. Kennedy Drive	East of Heacock Street	64.7	RW	96	207	446
31	John F. Kennedy Drive	West of Indian Street	64.7	RW	95	205	442
32	John F. Kennedy Drive	East of Indian Street	64.8	RW	97	210	452
33	John F. Kennedy Drive	West of Perris Boulevard	65.0	RW	101	217	467
34	John F. Kennedy Drive	East of Perris Boulevard	65.4	RW	107	230	495
35	John F. Kennedy Drive	West of Kitching Street	65.1	RW	101	218	469
36	John F. Kennedy Drive	East of Kitching Street	63.5	RW	80	172	371

ID	Road	Segment	CNEL at 100 Feet (dBA)	Distance to Contour (Feet)			
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
37	Gentian Avenue	West of Indian Street	55.0	RW	RW	RW	100
38	Gentian Avenue	East of Perris Boulevard	55.3	RW	RW	RW	104
39	Santiago Drive	East of Perris Boulevard	55.9	RW	RW	RW	115
40	Iris Avenue	West of Indian Street	61.2	RW	56	120	258
41	Iris Avenue	East of Indian Street	65.8	RW	114	245	527
42	Iris Avenue	West of Perris Boulevard	66.0	RW	117	252	542
43	Iris Avenue	East of Perris Boulevard	67.0	63	136	293	631
44	Iris Avenue	West of Kitching Street	67.7	70	151	326	703
45	Iris Avenue	East of Kitching Street	68.7	81	175	378	814
46	Iris Avenue	West of Lasselle Street	68.2	76	164	353	760
47	Iris Avenue	East of Lasselle Street	68.8	83	179	385	830
48	Krameria Avenue	East of Indian Street	57.4	RW	RW	67	145
49	Krameria Avenue	West of Perris Boulevard	57.3	RW	RW	66	142
50	Krameria Avenue	East of Perris Boulevard	63.9	RW	85	182	393
51	Harley Knox Boulevard	West of Webster Avenue	67.2	65	140	302	651
52	Harley Knox Boulevard	East of Webster Avenue	67.2	66	141	304	655
53	Harley Knox Boulevard	West of Indian Street	69.3	89	192	415	893
54	Harley Knox Boulevard	East of Indian Street	65.5	RW	108	232	500
55	Harley Knox Boulevard	West of Perris Boulevard	63.2	RW	76	164	353
56	Ramona Expressway	West of Perris Boulevard	70.8	113	243	523	1,127
57	Ramona Expressway	East of Perris Boulevard	70.5	107	231	499	1,074
58	Frederick Street	North of Cactus Avenue	64.9	RW	99	213	460
59	Heacock Street	North of Alessandro Boulevard	66.6	59	128	276	595
60	Heacock Street	North of Cactus Avenue	65.3	RW	104	225	485
61	Indian Street	North of Cottonwood Avenue	60.2	RW	RW	102	221
62	Indian Street	North of Alessandro Boulevard	65.0	RW	99	214	461
63	Indian Street	North of Cactus Avenue	65.3	RW	104	224	483
64	Indian Street	South of John F. Kennedy Drive	64.0	RW	85	184	396
65	Indian Street	North of Gentian Avenue	59.3	RW	RW	90	194
66	Indian Street	South of Iris Avenue	58.0	RW	RW	74	159
67	Indian Street	North of Krameria Avenue	58.4	RW	RW	78	167
68	Indian Street	South of Krameria Avenue	56.1	RW	RW	55	118
69	Indian Street	South of Harley Knox Boulevard	63.2	RW	76	163	351
70	Perris Boulevard	North of SR-60 WB Ramps	70.5	108	232	499	1,075
71	Perris Boulevard	SR-60 WB Ramps to Sunnymead Blvd.	71.0	116	250	540	1,162
72	Perris Boulevard	South of Sunnymead Boulevard	68.8	84	180	388	836
73	Perris Boulevard	North of Eucalyptus Avenue	68.2	76	163	352	758
74	Perris Boulevard	South of Eucalyptus Avenue	68.0	74	159	342	736

ID	Road	Segment	CNEL at 100 Feet (dBA)	Distance to Contour (Feet)			
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
75	Perris Boulevard	North of Cottonwood Avenue	68.7	82	177	382	823
76	Perris Boulevard	South of Cottonwood Avenue	68.4	78	168	363	782
77	Perris Boulevard	North of Alessandro Boulevard	68.1	74	160	345	743
78	Perris Boulevard	South of Alessandro Boulevard	68.3	77	166	358	772
79	Perris Boulevard	North of Cactus Avenue	68.0	74	159	343	740
80	Perris Boulevard	South of Cactus Avenue	69.2	88	191	411	884
81	Perris Boulevard	North of John F. Kennedy Drive	68.8	83	178	384	827
82	Perris Boulevard	South of John F. Kennedy Drive	69.7	95	206	443	954
83	Perris Boulevard	North of Gentian Avenue	69.2	89	191	413	889
84	Perris Boulevard	Gentian Avenue to Driveway 3	69.2	88	189	408	879
85	Perris Boulevard	Driveway 3 to Driveway 4	68.9	85	182	393	846
86	Perris Boulevard	Driveway 4 to Santiago Drive	68.9	84	181	390	841
87	Perris Boulevard	Santiago Drive to Iris Avenue	68.9	84	181	391	842
88	Perris Boulevard	South of Iris Avenue	68.6	81	174	374	806
89	Perris Boulevard	North of Krameria Avenue	68.4	78	168	362	779
90	Perris Boulevard	South of Krameria Avenue	68.5	79	171	368	793
91	Perris Boulevard	North of San Michele Road	68.7	82	176	379	817
92	Perris Boulevard	San Michele Road to Nandina Avenue	68.6	81	174	374	807
93	Perris Boulevard	South of Nandina Avenue	69.6	94	202	435	938
94	Perris Boulevard	North of Harley Knox Boulevard	67.1	64	137	296	637
95	Perris Boulevard	South of Harley Knox Boulevard	66.3	57	122	263	567
96	Perris Boulevard	North of Ramona Expressway	68.3	77	165	356	766
97	Perris Boulevard	South of Ramona Expressway	69.2	88	189	408	878
98	Kitching Street	North of Cactus Avenue	63.3	RW	78	167	360
99	Kitching Street	South of Cactus Avenue	60.6	RW	RW	109	236
100	Kitching Street	North of John F. Kennedy Drive	60.4	RW	RW	106	228
101	Kitching Street	South of John F. Kennedy Drive	60.8	RW	RW	112	242
102	Kitching Street	North of Iris Avenue	63.0	RW	74	159	342
103	Kitching Street	South of Iris Avenue	61.8	RW	61	131	282
104	Lasselle Street	North of Iris Avenue	67.4	67	144	311	670
105	Lasselle Street	South of Iris Avenue	68.8	83	179	385	829

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-5: YEAR 2035 WITHOUT PROJECT CONDITIONS NOISE CONTOURS

ID	Road	Segment	CNEL at 100 Feet (dBA)	Distance to Contour (Feet)			
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
1	Sunnymead Boulevard	Perris Boulevard to SR-60 EB On-Ramp	68.9	84	181	391	842
2	Eucalyptus Avenue	East of Perris Boulevard	62.4	RW	68	146	314
3	Cottonwood Avenue	West of Indian Street	64.0	RW	85	184	396
4	Cottonwood Avenue	East of Indian Street	63.2	RW	75	162	349
5	Cottonwood Avenue	West of Perris Boulevard	65.0	RW	100	216	465
6	Cottonwood Avenue	East of Perris Boulevard	63.2	RW	76	164	354
7	Alessandro Boulevard	West of Heacock Street	72.4	144	310	667	1,438
8	Alessandro Boulevard	East of Heacock Street	71.9	133	286	617	1,329
9	Alessandro Boulevard	West of Indian Street	71.7	129	278	600	1,292
10	Alessandro Boulevard	East of Indian Street	71.4	124	266	573	1,235
11	Alessandro Boulevard	West of Perris Boulevard	71.4	124	266	573	1,235
12	Alessandro Boulevard	East of Perris Boulevard	70.9	115	247	532	1,145
13	Cactus Avenue	West of I-215 Freeway	70.5	108	232	500	1,076
14	Cactus Avenue	I-215 SB Ramps to I-215 NB Ramps	71.0	116	250	539	1,160
15	Cactus Avenue	East of I-215 NB Ramps	72.4	145	312	672	1,448
16	Cactus Avenue	West of Elsworth Street	72.3	141	305	656	1,414
17	Cactus Avenue	East of Elsworth Street	72.7	151	325	701	1,511
18	Cactus Avenue	West of Frederick Street	72.8	155	333	718	1,547
19	Cactus Avenue	East of Frederick Street	73.0	158	341	735	1,583
20	Cactus Avenue	West of Graham Street	72.8	153	329	709	1,527
21	Cactus Avenue	East of Graham Street	72.4	145	312	673	1,449
22	Cactus Avenue	West of Heacock Street	72.1	137	295	636	1,371
23	Cactus Avenue	East of Heacock Street	70.6	109	236	508	1,095
24	Cactus Avenue	West of Indian Street	70.2	103	221	476	1,026
25	Cactus Avenue	East of Indian Street	70.2	103	222	479	1,032
26	Cactus Avenue	West of Perris Boulevard	69.9	99	213	460	991
27	Cactus Avenue	East of Perris Boulevard	69.3	90	194	417	899
28	Cactus Avenue	East of Kitching Street	68.2	76	164	352	759
29	John F. Kennedy Drive	West of Heacock Street	66.3	57	122	263	566
30	John F. Kennedy Drive	East of Heacock Street	66.0	RW	117	253	544
31	John F. Kennedy Drive	West of Indian Street	67.2	65	140	301	648
32	John F. Kennedy Drive	East of Indian Street	67.5	68	147	316	681
33	John F. Kennedy Drive	West of Perris Boulevard	68.4	78	168	362	779
34	John F. Kennedy Drive	East of Perris Boulevard	69.0	86	186	401	863
35	John F. Kennedy Drive	West of Kitching Street	68.9	84	181	390	840
36	John F. Kennedy Drive	East of Kitching Street	68.5	79	171	368	794

ID	Road	Segment	CNEL at 100 Feet (dBA)	Distance to Contour (Feet)			
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
37	Gentian Avenue	West of Indian Street	56.8	RW	RW	61	132
38	Gentian Avenue	East of Perris Boulevard	59.4	RW	RW	92	198
39	Santiago Drive	East of Perris Boulevard	59.1	RW	RW	88	189
40	Iris Avenue	West of Indian Street	62.7	RW	70	152	327
41	Iris Avenue	East of Indian Street	67.4	67	144	310	668
42	Iris Avenue	West of Perris Boulevard	68.5	79	171	369	795
43	Iris Avenue	East of Perris Boulevard	68.5	79	170	366	789
44	Iris Avenue	West of Kitching Street	69.2	88	190	410	883
45	Iris Avenue	East of Kitching Street	71.1	119	257	553	1,192
46	Iris Avenue	West of Lasselle Street	70.8	113	243	523	1,127
47	Iris Avenue	East of Lasselle Street	71.4	124	266	573	1,235
48	Krameria Avenue	East of Indian Street	61.0	RW	RW	117	252
49	Krameria Avenue	West of Perris Boulevard	61.7	RW	60	130	279
50	Krameria Avenue	East of Perris Boulevard	66.4	58	124	268	577
51	Harley Knox Boulevard	West of Webster Avenue	67.9	73	156	337	725
52	Harley Knox Boulevard	East of Webster Avenue	67.9	73	156	337	725
53	Harley Knox Boulevard	West of Indian Street	69.9	98	211	455	980
54	Harley Knox Boulevard	East of Indian Street	69.6	95	204	439	945
55	Harley Knox Boulevard	West of Perris Boulevard	66.7	60	130	279	602
56	Ramona Expressway	West of Perris Boulevard	71.4	124	268	577	1,243
57	Ramona Expressway	East of Perris Boulevard	71.6	128	275	592	1,275
58	Frederick Street	North of Cactus Avenue	65.3	RW	104	225	485
59	Heacock Street	North of Alessandro Boulevard	66.9	62	134	289	622
60	Heacock Street	North of Cactus Avenue	66.8	61	132	284	613
61	Indian Street	North of Cottonwood Avenue	61.7	RW	60	129	279
62	Indian Street	North of Alessandro Boulevard	66.0	RW	117	253	545
63	Indian Street	North of Cactus Avenue	66.8	61	131	282	608
64	Indian Street	South of John F. Kennedy Drive	65.1	RW	102	219	472
65	Indian Street	North of Gentian Avenue	61.2	RW	56	120	259
66	Indian Street	South of Iris Avenue	60.4	RW	RW	107	230
67	Indian Street	North of Krameria Avenue	61.7	RW	60	130	279
68	Indian Street	South of Krameria Avenue	63.3	RW	77	166	357
69	Indian Street	South of Harley Knox Boulevard	69.0	85	183	395	852
70	Perris Boulevard	North of SR-60 WB Ramps	72.4	144	310	667	1,438
71	Perris Boulevard	SR-60 WB Ramps to Sunnymead Blvd.	71.3	122	262	564	1,216
72	Perris Boulevard	South of Sunnymead Boulevard	71.0	116	250	539	1,162
73	Perris Boulevard	North of Eucalyptus Avenue	70.9	115	247	532	1,145
74	Perris Boulevard	South of Eucalyptus Avenue	71.4	124	268	577	1,243

ID	Road	Segment	CNEL at 100 Feet (dBA)	Distance to Contour (Feet)			
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
75	Perris Boulevard	North of Cottonwood Avenue	71.2	121	261	562	1,211
76	Perris Boulevard	South of Cottonwood Avenue	70.8	113	243	524	1,129
77	Perris Boulevard	North of Alessandro Boulevard	71.0	116	250	539	1,162
78	Perris Boulevard	South of Alessandro Boulevard	71.0	116	250	539	1,162
79	Perris Boulevard	North of Cactus Avenue	70.6	109	236	508	1,095
80	Perris Boulevard	South of Cactus Avenue	71.9	133	286	617	1,329
81	Perris Boulevard	North of John F. Kennedy Drive	71.6	127	274	591	1,273
82	Perris Boulevard	South of John F. Kennedy Drive	72.2	140	302	651	1,402
83	Perris Boulevard	North of Gentian Avenue	71.9	135	290	625	1,348
84	Perris Boulevard	Gentian Avenue to Driveway 3	71.8	131	282	608	1,311
85	Perris Boulevard	Driveway 3 to Driveway 4	71.8	131	282	608	1,311
86	Perris Boulevard	Driveway 4 to Santiago Drive	71.8	131	282	608	1,311
87	Perris Boulevard	Santiago Drive to Iris Avenue	72.1	137	295	636	1,371
88	Perris Boulevard	South of Iris Avenue	71.8	131	282	608	1,311
89	Perris Boulevard	North of Krameria Avenue	72.0	137	294	634	1,366
90	Perris Boulevard	South of Krameria Avenue	72.0	137	294	634	1,366
91	Perris Boulevard	North of San Michele Road	72.0	137	294	634	1,366
92	Perris Boulevard	San Michele Road to Nandina Avenue	72.4	146	314	676	1,455
93	Perris Boulevard	South of Nandina Avenue	72.3	142	306	659	1,420
94	Perris Boulevard	North of Harley Knox Boulevard	69.2	89	192	413	890
95	Perris Boulevard	South of Harley Knox Boulevard	68.1	75	162	348	750
96	Perris Boulevard	North of Ramona Expressway	70.3	104	225	484	1,043
97	Perris Boulevard	South of Ramona Expressway	70.0	99	214	461	993
98	Kitching Street	North of Cactus Avenue	66.6	59	128	275	593
99	Kitching Street	South of Cactus Avenue	63.1	RW	74	160	344
100	Kitching Street	North of John F. Kennedy Drive	63.6	RW	81	174	374
101	Kitching Street	South of John F. Kennedy Drive	63.3	RW	77	165	355
102	Kitching Street	North of Iris Avenue	66.3	56	122	262	564
103	Kitching Street	South of Iris Avenue	65.6	RW	110	237	511
104	Lasselle Street	North of Iris Avenue	68.9	85	183	394	849
105	Lasselle Street	South of Iris Avenue	69.7	96	206	445	958

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-6: YEAR 2035 WITH PROJECT CONDITIONS NOISE CONTOURS

ID	Road	Segment	CNEL at 100 Feet (dBA)	Distance to Contour (Feet)			
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
1	Sunnymead Boulevard	Perris Boulevard to SR-60 EB On-Ramp	68.9	84	182	392	844
2	Eucalyptus Avenue	East of Perris Boulevard	62.5	RW	68	146	315
3	Cottonwood Avenue	West of Indian Street	64.0	RW	86	185	400
4	Cottonwood Avenue	East of Indian Street	63.2	RW	76	163	351
5	Cottonwood Avenue	West of Perris Boulevard	65.0	RW	100	216	466
6	Cottonwood Avenue	East of Perris Boulevard	63.3	RW	77	166	357
7	Alessandro Boulevard	West of Heacock Street	72.4	144	311	671	1,445
8	Alessandro Boulevard	East of Heacock Street	71.9	133	287	619	1,333
9	Alessandro Boulevard	West of Indian Street	71.7	130	279	601	1,296
10	Alessandro Boulevard	East of Indian Street	71.4	124	267	574	1,237
11	Alessandro Boulevard	West of Perris Boulevard	71.4	124	267	574	1,237
12	Alessandro Boulevard	East of Perris Boulevard	70.9	115	247	532	1,147
13	Cactus Avenue	West of I-215 Freeway	70.5	108	232	500	1,078
14	Cactus Avenue	I-215 SB Ramps to I-215 NB Ramps	71.0	116	250	539	1,162
15	Cactus Avenue	East of I-215 NB Ramps	72.4	145	313	674	1,453
16	Cactus Avenue	West of Elsworth Street	72.3	142	306	658	1,418
17	Cactus Avenue	East of Elsworth Street	72.7	152	327	704	1,516
18	Cactus Avenue	West of Frederick Street	72.9	155	334	721	1,552
19	Cactus Avenue	East of Frederick Street	73.0	159	343	738	1,591
20	Cactus Avenue	West of Graham Street	72.8	154	331	712	1,535
21	Cactus Avenue	East of Graham Street	72.5	146	314	677	1,458
22	Cactus Avenue	West of Heacock Street	72.1	138	297	640	1,380
23	Cactus Avenue	East of Heacock Street	70.6	110	238	513	1,104
24	Cactus Avenue	West of Indian Street	70.2	104	223	481	1,036
25	Cactus Avenue	East of Indian Street	70.2	103	222	479	1,032
26	Cactus Avenue	West of Perris Boulevard	69.9	99	213	460	991
27	Cactus Avenue	East of Perris Boulevard	69.3	90	194	418	901
28	Cactus Avenue	East of Kitching Street	68.3	77	165	355	765
29	John F. Kennedy Drive	West of Heacock Street	66.3	57	123	264	569
30	John F. Kennedy Drive	East of Heacock Street	66.1	55	119	257	553
31	John F. Kennedy Drive	West of Indian Street	67.3	66	142	306	658
32	John F. Kennedy Drive	East of Indian Street	67.5	68	147	317	683
33	John F. Kennedy Drive	West of Perris Boulevard	68.4	78	168	362	779
34	John F. Kennedy Drive	East of Perris Boulevard	69.2	89	191	412	887
35	John F. Kennedy Drive	West of Kitching Street	69.0	86	186	400	862
36	John F. Kennedy Drive	East of Kitching Street	68.5	80	172	371	799

ID	Road	Segment	CNEL at 100 Feet (dBA)	Distance to Contour (Feet)			
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
37	Gentian Avenue	West of Indian Street	57.2	RW	RW	65	141
38	Gentian Avenue	East of Perris Boulevard	59.5	RW	RW	93	199
39	Santiago Drive	East of Perris Boulevard	59.3	RW	RW	89	192
40	Iris Avenue	West of Indian Street	62.7	RW	70	152	327
41	Iris Avenue	East of Indian Street	67.4	67	144	311	670
42	Iris Avenue	West of Perris Boulevard	68.5	80	172	371	799
43	Iris Avenue	East of Perris Boulevard	68.7	81	175	378	814
44	Iris Avenue	West of Kitching Street	69.3	90	195	419	903
45	Iris Avenue	East of Kitching Street	71.2	121	260	561	1,209
46	Iris Avenue	West of Lasselle Street	70.9	114	246	530	1,141
47	Iris Avenue	East of Lasselle Street	71.4	124	268	577	1,243
48	Krameria Avenue	East of Indian Street	61.1	RW	55	118	254
49	Krameria Avenue	West of Perris Boulevard	61.7	RW	60	130	281
50	Krameria Avenue	East of Perris Boulevard	66.5	58	125	270	581
51	Harley Knox Boulevard	West of Webster Avenue	67.9	73	157	338	729
52	Harley Knox Boulevard	East of Webster Avenue	68.0	73	158	340	732
53	Harley Knox Boulevard	West of Indian Street	69.9	99	213	460	990
54	Harley Knox Boulevard	East of Indian Street	69.7	95	204	440	949
55	Harley Knox Boulevard	West of Perris Boulevard	66.7	60	130	281	605
56	Ramona Expressway	West of Perris Boulevard	71.4	124	268	578	1,245
57	Ramona Expressway	East of Perris Boulevard	71.6	128	276	595	1,282
58	Frederick Street	North of Cactus Avenue	65.3	RW	105	227	489
59	Heacock Street	North of Alessandro Boulevard	67.0	63	135	292	628
60	Heacock Street	North of Cactus Avenue	66.9	63	135	290	626
61	Indian Street	North of Cottonwood Avenue	61.7	RW	61	131	282
62	Indian Street	North of Alessandro Boulevard	66.2	56	120	259	559
63	Indian Street	North of Cactus Avenue	67.0	63	136	293	632
64	Indian Street	South of John F. Kennedy Drive	65.8	RW	114	245	528
65	Indian Street	North of Gentian Avenue	62.0	RW	63	135	292
66	Indian Street	South of Iris Avenue	60.8	RW	RW	113	243
67	Indian Street	North of Krameria Avenue	61.9	RW	63	135	291
68	Indian Street	South of Krameria Avenue	63.4	RW	79	170	366
69	Indian Street	South of Harley Knox Boulevard	69.0	85	184	396	854
70	Perris Boulevard	North of SR-60 WB Ramps	72.4	144	310	669	1,441
71	Perris Boulevard	SR-60 WB Ramps to Sunnymead Blvd.	71.3	122	263	567	1,222
72	Perris Boulevard	South of Sunnymead Boulevard	71.0	117	252	542	1,168
73	Perris Boulevard	North of Eucalyptus Avenue	70.9	115	248	535	1,152
74	Perris Boulevard	South of Eucalyptus Avenue	71.5	125	269	580	1,250

ID	Road	Segment	CNEL at 100 Feet (dBA)	Distance to Contour (Feet)			
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
75	Perris Boulevard	North of Cottonwood Avenue	71.3	122	263	566	1,220
76	Perris Boulevard	South of Cottonwood Avenue	70.9	114	246	531	1,143
77	Perris Boulevard	North of Alessandro Boulevard	71.1	118	253	546	1,176
78	Perris Boulevard	South of Alessandro Boulevard	71.1	118	254	547	1,179
79	Perris Boulevard	North of Cactus Avenue	70.7	111	240	517	1,114
80	Perris Boulevard	South of Cactus Avenue	72.0	135	291	628	1,352
81	Perris Boulevard	North of John F. Kennedy Drive	71.7	130	280	604	1,300
82	Perris Boulevard	South of John F. Kennedy Drive	72.4	145	312	673	1,450
83	Perris Boulevard	North of Gentian Avenue	72.2	140	301	649	1,398
84	Perris Boulevard	Gentian Avenue to Driveway 3	72.1	138	297	640	1,378
85	Perris Boulevard	Driveway 3 to Driveway 4	72.0	136	294	633	1,364
86	Perris Boulevard	Driveway 4 to Santiago Drive	72.0	136	294	633	1,364
87	Perris Boulevard	Santiago Drive to Iris Avenue	72.3	142	307	661	1,425
88	Perris Boulevard	South of Iris Avenue	71.9	134	289	622	1,339
89	Perris Boulevard	North of Krameria Avenue	72.2	139	300	647	1,394
90	Perris Boulevard	South of Krameria Avenue	72.2	139	300	647	1,394
91	Perris Boulevard	North of San Michele Road	72.1	139	298	643	1,385
92	Perris Boulevard	San Michele Road to Nandina Avenue	72.5	147	317	683	1,472
93	Perris Boulevard	South of Nandina Avenue	72.4	144	309	666	1,435
94	Perris Boulevard	North of Harley Knox Boulevard	69.3	90	194	417	899
95	Perris Boulevard	South of Harley Knox Boulevard	68.2	76	163	352	758
96	Perris Boulevard	North of Ramona Expressway	70.3	106	227	490	1,055
97	Perris Boulevard	South of Ramona Expressway	70.0	100	215	463	997
98	Kitching Street	North of Cactus Avenue	66.7	60	129	278	599
99	Kitching Street	South of Cactus Avenue	63.2	RW	76	163	352
100	Kitching Street	North of John F. Kennedy Drive	63.7	RW	82	178	383
101	Kitching Street	South of John F. Kennedy Drive	63.3	RW	77	166	358
102	Kitching Street	North of Iris Avenue	66.3	57	122	263	566
103	Kitching Street	South of Iris Avenue	65.7	RW	111	238	513
104	Lasselle Street	North of Iris Avenue	69.0	85	183	395	851
105	Lasselle Street	South of Iris Avenue	69.7	96	207	446	962

"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-7: EXISTING OFF-SITE PROJECT RELATED TRAFFIC NOISE IMPACTS

ID	Road	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact?
			No Project	With Project	Project Addition	
1	Sunnymead Boulevard	Perris Boulevard to SR-60 EB On-Ramp	66.6	66.6	0.0	No
2	Eucalyptus Avenue	East of Perris Boulevard	59.1	59.2	0.1	No
3	Cottonwood Avenue	West of Indian Street	61.9	62.0	0.1	No
4	Cottonwood Avenue	East of Indian Street	60.9	61.1	0.2	No
5	Cottonwood Avenue	West of Perris Boulevard	60.3	60.6	0.4	No
6	Cottonwood Avenue	East of Perris Boulevard	59.5	59.7	0.2	No
7	Alessandro Boulevard	West of Heacock Street	69.4	69.5	0.1	No
8	Alessandro Boulevard	East of Heacock Street	69.2	69.3	0.1	No
9	Alessandro Boulevard	West of Indian Street	68.7	68.9	0.1	No
10	Alessandro Boulevard	East of Indian Street	68.6	68.8	0.1	No
11	Alessandro Boulevard	West of Perris Boulevard	68.5	68.6	0.2	No
12	Alessandro Boulevard	East of Perris Boulevard	66.8	66.9	0.1	No
13	Cactus Avenue	West of I-215 Freeway	65.3	65.3	0.0	No
14	Cactus Avenue	I-215 SB Ramps to I-215 NB Ramps	67.8	67.8	0.0	No
15	Cactus Avenue	East of I-215 NB Ramps	69.7	69.7	0.0	No
16	Cactus Avenue	West of Elsworth Street	69.6	69.6	0.0	No
17	Cactus Avenue	East of Elsworth Street	69.9	69.9	0.0	No
18	Cactus Avenue	West of Frederick Street	69.7	69.8	0.0	No
19	Cactus Avenue	East of Frederick Street	70.2	70.2	0.1	No
20	Cactus Avenue	West of Graham Street	70.0	70.1	0.1	No
21	Cactus Avenue	East of Graham Street	69.2	69.3	0.1	No
22	Cactus Avenue	West of Heacock Street	69.2	69.3	0.1	No
23	Cactus Avenue	East of Heacock Street	66.3	66.4	0.2	No
24	Cactus Avenue	West of Indian Street	66.2	66.3	0.2	No
25	Cactus Avenue	East of Indian Street	66.4	66.6	0.2	No
26	Cactus Avenue	West of Perris Boulevard	65.7	66.0	0.2	No
27	Cactus Avenue	East of Perris Boulevard	65.6	65.7	0.1	No
28	Cactus Avenue	East of Kitching Street	64.7	64.8	0.1	No
29	John F. Kennedy Drive	West of Heacock Street	63.3	63.4	0.1	No
30	John F. Kennedy Drive	East of Heacock Street	64.3	64.3	0.0	No
31	John F. Kennedy Drive	West of Indian Street	63.8	63.9	0.1	No
32	John F. Kennedy Drive	East of Indian Street	63.9	64.0	0.2	No
33	John F. Kennedy Drive	West of Perris Boulevard	63.8	64.0	0.2	No
34	John F. Kennedy Drive	East of Perris Boulevard	63.9	64.3	0.4	No
35	John F. Kennedy Drive	West of Kitching Street	63.4	63.9	0.5	No
36	John F. Kennedy Drive	East of Kitching Street	61.9	62.1	0.2	No
37	Gentian Avenue	West of Indian Street	54.1	54.3	0.3	No

ID	Road	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact?
			No Project	With Project	Project Addition	
38	Gentian Avenue	East of Perris Boulevard	53.6	54.0	0.4	No
39	Santiago Drive	East of Perris Boulevard	54.6	54.9	0.3	No
40	Iris Avenue	West of Indian Street	60.6	60.7	0.1	No
41	Iris Avenue	East of Indian Street	65.2	65.4	0.1	No
42	Iris Avenue	West of Perris Boulevard	65.0	65.2	0.2	No
43	Iris Avenue	East of Perris Boulevard	66.1	66.5	0.4	No
44	Iris Avenue	West of Kitching Street	66.9	67.2	0.3	No
45	Iris Avenue	East of Kitching Street	67.7	67.9	0.2	No
46	Iris Avenue	West of Lasselle Street	67.2	67.4	0.2	No
47	Iris Avenue	East of Lasselle Street	67.9	68.0	0.1	No
48	Krameria Avenue	East of Indian Street	56.2	56.4	0.2	No
49	Krameria Avenue	West of Perris Boulevard	55.9	56.0	0.1	No
50	Krameria Avenue	East of Perris Boulevard	63.0	63.2	0.1	No
51	Harley Knox Boulevard	West of Webster Avenue	61.7	61.8	0.1	No
52	Harley Knox Boulevard	East of Webster Avenue	61.7	61.9	0.3	No
53	Harley Knox Boulevard	West of Indian Street	64.1	64.3	0.3	No
54	Harley Knox Boulevard	East of Indian Street	61.6	62.1	0.5	No
55	Harley Knox Boulevard	West of Perris Boulevard	58.6	59.2	0.6	No
56	Ramona Expressway	West of Perris Boulevard	69.6	69.6	0.0	No
57	Ramona Expressway	East of Perris Boulevard	69.0	69.1	0.1	No
58	Frederick Street	North of Cactus Avenue	61.9	62.0	0.1	No
59	Heacock Street	North of Alessandro Boulevard	66.1	66.2	0.0	No
60	Heacock Street	North of Cactus Avenue	64.7	64.8	0.0	No
61	Indian Street	North of Cottonwood Avenue	59.6	59.7	0.1	No
62	Indian Street	North of Alessandro Boulevard	64.5	64.6	0.0	No
63	Indian Street	North of Cactus Avenue	64.7	64.7	0.1	No
64	Indian Street	South of John F. Kennedy Drive	63.3	63.4	0.1	No
65	Indian Street	North of Gentian Avenue	58.4	58.5	0.1	No
66	Indian Street	South of Iris Avenue	57.0	57.2	0.2	No
67	Indian Street	North of Krameria Avenue	57.1	57.3	0.2	No
68	Indian Street	South of Krameria Avenue	53.8	54.0	0.2	No
69	Indian Street	South of Harley Knox Boulevard	60.6	60.7	0.1	No
70	Perris Boulevard	North of SR-60 WB Ramps	69.9	69.9	0.0	No
71	Perris Boulevard	SR-60 WB Ramps to Sunnymead Blvd.	70.2	70.3	0.0	No
72	Perris Boulevard	South of Sunnymead Boulevard	68.1	68.2	0.1	No
73	Perris Boulevard	North of Eucalyptus Avenue	67.3	67.4	0.1	No
74	Perris Boulevard	South of Eucalyptus Avenue	66.8	67.0	0.1	No
75	Perris Boulevard	North of Cottonwood Avenue	67.8	68.0	0.1	No

ID	Road	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact?
			No Project	With Project	Project Addition	
76	Perris Boulevard	South of Cottonwood Avenue	67.3	67.6	0.3	No
77	Perris Boulevard	North of Alessandro Boulevard	66.8	67.2	0.4	No
78	Perris Boulevard	South of Alessandro Boulevard	66.9	67.5	0.6	No
79	Perris Boulevard	North of Cactus Avenue	66.6	67.2	0.7	No
80	Perris Boulevard	South of Cactus Avenue	67.5	68.3	0.9	No
81	Perris Boulevard	North of John F. Kennedy Drive	66.9	67.9	1.0	No
82	Perris Boulevard	South of John F. Kennedy Drive	67.8	68.8	1.1	No
83	Perris Boulevard	North of Gentian Avenue	67.1	68.3	1.2	No
84	Perris Boulevard	Gentian Avenue to Driveway 3	67.1	68.3	1.2	No
85	Perris Boulevard	Driveway 3 to Driveway 4	67.1	68.0	0.9	No
86	Perris Boulevard	Driveway 4 to Santiago Drive	67.1	67.9	0.8	No
87	Perris Boulevard	Santiago Drive to Iris Avenue	66.9	67.9	1.0	No
88	Perris Boulevard	South of Iris Avenue	67.1	67.6	0.5	No
89	Perris Boulevard	North of Krameria Avenue	66.7	67.3	0.6	No
90	Perris Boulevard	South of Krameria Avenue	67.0	67.4	0.5	No
91	Perris Boulevard	North of San Michele Road	67.3	67.7	0.4	No
92	Perris Boulevard	San Michele Road to Nandina Avenue	67.1	67.5	0.4	No
93	Perris Boulevard	South of Nandina Avenue	67.0	67.4	0.4	No
94	Perris Boulevard	North of Harley Knox Boulevard	64.2	64.6	0.4	No
95	Perris Boulevard	South of Harley Knox Boulevard	63.8	64.0	0.2	No
96	Perris Boulevard	North of Ramona Expressway	65.6	65.9	0.3	No
97	Perris Boulevard	South of Ramona Expressway	66.6	66.7	0.1	No
98	Kitching Street	North of Cactus Avenue	62.2	62.4	0.1	No
99	Kitching Street	South of Cactus Avenue	59.5	59.8	0.3	No
100	Kitching Street	North of John F. Kennedy Drive	59.1	59.4	0.3	No
101	Kitching Street	South of John F. Kennedy Drive	59.9	60.0	0.1	No
102	Kitching Street	North of Iris Avenue	62.0	62.0	0.1	No
103	Kitching Street	South of Iris Avenue	60.5	60.6	0.1	No
104	Lasselle Street	North of Iris Avenue	66.9	66.9	0.0	No
105	Lasselle Street	South of Iris Avenue	68.5	68.5	0.0	No

[1]

TABLE 7-8: YEAR 2018 OFF-SITE PROJECT RELATED TRAFFIC NOISE IMPACTS

ID	Road	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact?
			No Project	With Project	Project Addition	
1	Sunnymead Boulevard	Perris Boulevard to SR-60 EB On-Ramp	67.5	67.6	0.0	No
2	Eucalyptus Avenue	East of Perris Boulevard	59.8	59.9	0.1	No
3	Cottonwood Avenue	West of Indian Street	62.4	62.4	0.1	No
4	Cottonwood Avenue	East of Indian Street	61.4	61.6	0.2	No
5	Cottonwood Avenue	West of Perris Boulevard	61.3	61.6	0.3	No
6	Cottonwood Avenue	East of Perris Boulevard	60.4	60.5	0.1	No
7	Alessandro Boulevard	West of Heacock Street	70.1	70.1	0.1	No
8	Alessandro Boulevard	East of Heacock Street	69.8	69.9	0.1	No
9	Alessandro Boulevard	West of Indian Street	69.4	69.5	0.1	No
10	Alessandro Boulevard	East of Indian Street	69.3	69.4	0.1	No
11	Alessandro Boulevard	West of Perris Boulevard	69.1	69.3	0.1	No
12	Alessandro Boulevard	East of Perris Boulevard	67.7	67.8	0.1	No
13	Cactus Avenue	West of I-215 Freeway	68.7	68.7	0.0	No
14	Cactus Avenue	I-215 SB Ramps to I-215 NB Ramps	70.6	70.6	0.0	No
15	Cactus Avenue	East of I-215 NB Ramps	71.3	71.3	0.0	No
16	Cactus Avenue	West of Elsworth Street	71.8	71.9	0.0	No
17	Cactus Avenue	East of Elsworth Street	72.3	72.3	0.0	No
18	Cactus Avenue	West of Frederick Street	72.4	72.5	0.0	No
19	Cactus Avenue	East of Frederick Street	72.5	72.5	0.0	No
20	Cactus Avenue	West of Graham Street	72.3	72.4	0.0	No
21	Cactus Avenue	East of Graham Street	71.3	71.4	0.0	No
22	Cactus Avenue	West of Heacock Street	70.9	70.9	0.1	No
23	Cactus Avenue	East of Heacock Street	68.7	68.8	0.1	No
24	Cactus Avenue	West of Indian Street	68.3	68.4	0.1	No
25	Cactus Avenue	East of Indian Street	67.9	68.0	0.1	No
26	Cactus Avenue	West of Perris Boulevard	67.4	67.5	0.2	No
27	Cactus Avenue	East of Perris Boulevard	67.2	67.3	0.1	No
28	Cactus Avenue	East of Kitching Street	66.1	66.2	0.1	No
29	John F. Kennedy Drive	West of Heacock Street	64.0	64.0	0.0	No
30	John F. Kennedy Drive	East of Heacock Street	64.7	64.7	0.0	No
31	John F. Kennedy Drive	West of Indian Street	64.6	64.7	0.1	No
32	John F. Kennedy Drive	East of Indian Street	64.7	64.8	0.1	No
33	John F. Kennedy Drive	West of Perris Boulevard	64.9	65.0	0.1	No
34	John F. Kennedy Drive	East of Perris Boulevard	65.1	65.4	0.3	No
35	John F. Kennedy Drive	West of Kitching Street	64.7	65.1	0.4	No
36	John F. Kennedy Drive	East of Kitching Street	63.4	63.5	0.1	No
37	Gentian Avenue	West of Indian Street	54.8	55.0	0.2	No

ID	Road	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact?
			No Project	With Project	Project Addition	
38	Gentian Avenue	East of Perris Boulevard	55.0	55.3	0.3	No
39	Santiago Drive	East of Perris Boulevard	55.7	55.9	0.3	No
40	Iris Avenue	West of Indian Street	61.1	61.2	0.1	No
41	Iris Avenue	East of Indian Street	65.7	65.8	0.1	No
42	Iris Avenue	West of Perris Boulevard	65.8	66.0	0.2	No
43	Iris Avenue	East of Perris Boulevard	66.7	67.0	0.3	No
44	Iris Avenue	West of Kitching Street	67.5	67.7	0.2	No
45	Iris Avenue	East of Kitching Street	68.5	68.7	0.2	No
46	Iris Avenue	West of Lasselle Street	68.0	68.2	0.2	No
47	Iris Avenue	East of Lasselle Street	68.7	68.8	0.1	No
48	Krameria Avenue	East of Indian Street	57.3	57.4	0.1	No
49	Krameria Avenue	West of Perris Boulevard	57.2	57.3	0.1	No
50	Krameria Avenue	East of Perris Boulevard	63.8	63.9	0.1	No
51	Harley Knox Boulevard	West of Webster Avenue	67.2	67.2	0.0	No
52	Harley Knox Boulevard	East of Webster Avenue	67.2	67.2	0.1	No
53	Harley Knox Boulevard	West of Indian Street	69.2	69.3	0.1	No
54	Harley Knox Boulevard	East of Indian Street	65.3	65.5	0.2	No
55	Harley Knox Boulevard	West of Perris Boulevard	63.0	63.2	0.2	No
56	Ramona Expressway	West of Perris Boulevard	70.8	70.8	0.0	No
57	Ramona Expressway	East of Perris Boulevard	70.4	70.5	0.0	No
58	Frederick Street	North of Cactus Avenue	64.9	64.9	0.1	No
59	Heacock Street	North of Alessandro Boulevard	66.5	66.6	0.1	No
60	Heacock Street	North of Cactus Avenue	65.2	65.3	0.0	No
61	Indian Street	North of Cottonwood Avenue	60.1	60.2	0.1	No
62	Indian Street	North of Alessandro Boulevard	64.9	65.0	0.1	No
63	Indian Street	North of Cactus Avenue	65.2	65.3	0.1	No
64	Indian Street	South of John F. Kennedy Drive	63.9	64.0	0.1	No
65	Indian Street	North of Gentian Avenue	59.2	59.3	0.1	No
66	Indian Street	South of Iris Avenue	57.8	58.0	0.2	No
67	Indian Street	North of Krameria Avenue	58.2	58.4	0.1	No
68	Indian Street	South of Krameria Avenue	56.0	56.1	0.1	No
69	Indian Street	South of Harley Knox Boulevard	63.1	63.2	0.1	No
70	Perris Boulevard	North of SR-60 WB Ramps	70.4	70.5	0.0	No
71	Perris Boulevard	SR-60 WB Ramps to Sunnymead Blvd.	70.9	71.0	0.0	No
72	Perris Boulevard	South of Sunnymead Boulevard	68.8	68.8	0.1	No
73	Perris Boulevard	North of Eucalyptus Avenue	68.1	68.2	0.1	No
74	Perris Boulevard	South of Eucalyptus Avenue	67.9	68.0	0.1	No
75	Perris Boulevard	North of Cottonwood Avenue	68.6	68.7	0.1	No

ID	Road	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact?
			No Project	With Project	Project Addition	
76	Perris Boulevard	South of Cottonwood Avenue	68.1	68.4	0.3	No
77	Perris Boulevard	North of Alessandro Boulevard	67.8	68.1	0.3	No
78	Perris Boulevard	South of Alessandro Boulevard	67.8	68.3	0.5	No
79	Perris Boulevard	North of Cactus Avenue	67.5	68.0	0.5	No
80	Perris Boulevard	South of Cactus Avenue	68.5	69.2	0.7	No
81	Perris Boulevard	North of John F. Kennedy Drive	68.0	68.8	0.8	No
82	Perris Boulevard	South of John F. Kennedy Drive	68.8	69.7	0.9	No
83	Perris Boulevard	North of Gentian Avenue	68.3	69.2	1.0	No
84	Perris Boulevard	Gentian Avenue to Driveway 3	68.2	69.2	0.9	No
85	Perris Boulevard	Driveway 3 to Driveway 4	68.2	68.9	0.7	No
86	Perris Boulevard	Driveway 4 to Santiago Drive	68.2	68.9	0.7	No
87	Perris Boulevard	Santiago Drive to Iris Avenue	68.1	68.9	0.8	No
88	Perris Boulevard	South of Iris Avenue	68.2	68.6	0.4	No
89	Perris Boulevard	North of Krameria Avenue	67.9	68.4	0.4	No
90	Perris Boulevard	South of Krameria Avenue	68.1	68.5	0.4	No
91	Perris Boulevard	North of San Michele Road	68.4	68.7	0.3	No
92	Perris Boulevard	San Michele Road to Nandina Avenue	68.3	68.6	0.3	No
93	Perris Boulevard	South of Nandina Avenue	69.3	69.6	0.2	No
94	Perris Boulevard	North of Harley Knox Boulevard	66.9	67.1	0.2	No
95	Perris Boulevard	South of Harley Knox Boulevard	66.2	66.3	0.1	No
96	Perris Boulevard	North of Ramona Expressway	68.1	68.3	0.2	No
97	Perris Boulevard	South of Ramona Expressway	69.1	69.2	0.0	No
98	Kitching Street	North of Cactus Avenue	63.2	63.3	0.1	No
99	Kitching Street	South of Cactus Avenue	60.4	60.6	0.2	No
100	Kitching Street	North of John F. Kennedy Drive	60.1	60.4	0.2	No
101	Kitching Street	South of John F. Kennedy Drive	60.7	60.8	0.1	No
102	Kitching Street	North of Iris Avenue	63.0	63.0	0.1	No
103	Kitching Street	South of Iris Avenue	61.7	61.8	0.0	No
104	Lasselle Street	North of Iris Avenue	67.3	67.4	0.0	No
105	Lasselle Street	South of Iris Avenue	68.7	68.8	0.0	No

TABLE 7-9: YEAR 2035 OFF-SITE PROJECT RELATED TRAFFIC NOISE IMPACTS

ID	Road	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact?
			No Project	With Project	Project Addition	
1	Sunnymead Boulevard	Perris Boulevard to SR-60 EB On-Ramp	68.9	68.9	0.0	No
2	Eucalyptus Avenue	East of Perris Boulevard	62.4	62.5	0.0	No
3	Cottonwood Avenue	West of Indian Street	64.0	64.0	0.1	No
4	Cottonwood Avenue	East of Indian Street	63.2	63.2	0.0	No
5	Cottonwood Avenue	West of Perris Boulevard	65.0	65.0	0.0	No
6	Cottonwood Avenue	East of Perris Boulevard	63.2	63.3	0.0	No
7	Alessandro Boulevard	West of Heacock Street	72.4	72.4	0.0	No
8	Alessandro Boulevard	East of Heacock Street	71.9	71.9	0.0	No
9	Alessandro Boulevard	West of Indian Street	71.7	71.7	0.0	No
10	Alessandro Boulevard	East of Indian Street	71.4	71.4	0.0	No
11	Alessandro Boulevard	West of Perris Boulevard	71.4	71.4	0.0	No
12	Alessandro Boulevard	East of Perris Boulevard	70.9	70.9	0.0	No
13	Cactus Avenue	West of I-215 Freeway	70.5	70.5	0.0	No
14	Cactus Avenue	I-215 SB Ramps to I-215 NB Ramps	71.0	71.0	0.0	No
15	Cactus Avenue	East of I-215 NB Ramps	72.4	72.4	0.0	No
16	Cactus Avenue	West of Elsworth Street	72.3	72.3	0.0	No
17	Cactus Avenue	East of Elsworth Street	72.7	72.7	0.0	No
18	Cactus Avenue	West of Frederick Street	72.8	72.9	0.0	No
19	Cactus Avenue	East of Frederick Street	73.0	73.0	0.0	No
20	Cactus Avenue	West of Graham Street	72.8	72.8	0.0	No
21	Cactus Avenue	East of Graham Street	72.4	72.5	0.0	No
22	Cactus Avenue	West of Heacock Street	72.1	72.1	0.0	No
23	Cactus Avenue	East of Heacock Street	70.6	70.6	0.1	No
24	Cactus Avenue	West of Indian Street	70.2	70.2	0.1	No
25	Cactus Avenue	East of Indian Street	70.2	70.2	0.0	No
26	Cactus Avenue	West of Perris Boulevard	69.9	69.9	0.0	No
27	Cactus Avenue	East of Perris Boulevard	69.3	69.3	0.0	No
28	Cactus Avenue	East of Kitching Street	68.2	68.3	0.1	No
29	John F. Kennedy Drive	West of Heacock Street	66.3	66.3	0.0	No
30	John F. Kennedy Drive	East of Heacock Street	66.0	66.1	0.1	No
31	John F. Kennedy Drive	West of Indian Street	67.2	67.3	0.1	No
32	John F. Kennedy Drive	East of Indian Street	67.5	67.5	0.0	No
33	John F. Kennedy Drive	West of Perris Boulevard	68.4	68.4	0.0	No
34	John F. Kennedy Drive	East of Perris Boulevard	69.0	69.2	0.2	No
35	John F. Kennedy Drive	West of Kitching Street	68.9	69.0	0.2	No
36	John F. Kennedy Drive	East of Kitching Street	68.5	68.5	0.0	No
37	Gentian Avenue	West of Indian Street	56.8	57.2	0.4	No

ID	Road	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact?
			No Project	With Project	Project Addition	
38	Gentian Avenue	East of Perris Boulevard	59.4	59.5	0.1	No
39	Santiago Drive	East of Perris Boulevard	59.1	59.3	0.1	No
40	Iris Avenue	West of Indian Street	62.7	62.7	0.0	No
41	Iris Avenue	East of Indian Street	67.4	67.4	0.0	No
42	Iris Avenue	West of Perris Boulevard	68.5	68.5	0.0	No
43	Iris Avenue	East of Perris Boulevard	68.5	68.7	0.2	No
44	Iris Avenue	West of Kitching Street	69.2	69.3	0.1	No
45	Iris Avenue	East of Kitching Street	71.1	71.2	0.1	No
46	Iris Avenue	West of Lasselle Street	70.8	70.9	0.1	No
47	Iris Avenue	East of Lasselle Street	71.4	71.4	0.0	No
48	Krameria Avenue	East of Indian Street	61.0	61.1	0.1	No
49	Krameria Avenue	West of Perris Boulevard	61.7	61.7	0.0	No
50	Krameria Avenue	East of Perris Boulevard	66.4	66.5	0.1	No
51	Harley Knox Boulevard	West of Webster Avenue	67.9	67.9	0.0	No
52	Harley Knox Boulevard	East of Webster Avenue	67.9	68.0	0.1	No
53	Harley Knox Boulevard	West of Indian Street	69.9	69.9	0.1	No
54	Harley Knox Boulevard	East of Indian Street	69.6	69.7	0.0	No
55	Harley Knox Boulevard	West of Perris Boulevard	66.7	66.7	0.0	No
56	Ramona Expressway	West of Perris Boulevard	71.4	71.4	0.0	No
57	Ramona Expressway	East of Perris Boulevard	71.6	71.6	0.0	No
58	Frederick Street	North of Cactus Avenue	65.3	65.3	0.1	No
59	Heacock Street	North of Alessandro Boulevard	66.9	67.0	0.1	No
60	Heacock Street	North of Cactus Avenue	66.8	66.9	0.1	No
61	Indian Street	North of Cottonwood Avenue	61.7	61.7	0.1	No
62	Indian Street	North of Alessandro Boulevard	66.0	66.2	0.2	No
63	Indian Street	North of Cactus Avenue	66.8	67.0	0.3	No
64	Indian Street	South of John F. Kennedy Drive	65.1	65.8	0.7	No
65	Indian Street	North of Gentian Avenue	61.2	62.0	0.8	No
66	Indian Street	South of Iris Avenue	60.4	60.8	0.3	No
67	Indian Street	North of Krameria Avenue	61.7	61.9	0.3	No
68	Indian Street	South of Krameria Avenue	63.3	63.4	0.2	No
69	Indian Street	South of Harley Knox Boulevard	69.0	69.0	0.0	No
70	Perris Boulevard	North of SR-60 WB Ramps	72.4	72.4	0.0	No
71	Perris Boulevard	SR-60 WB Ramps to Sunnymead Blvd.	71.3	71.3	0.0	No
72	Perris Boulevard	South of Sunnymead Boulevard	71.0	71.0	0.0	No
73	Perris Boulevard	North of Eucalyptus Avenue	70.9	70.9	0.0	No
74	Perris Boulevard	South of Eucalyptus Avenue	71.4	71.5	0.0	No
75	Perris Boulevard	North of Cottonwood Avenue	71.2	71.3	0.0	No

ID	Road	Segment	CNEL at 100 Feet (dBA)			Potential Significant Impact?
			No Project	With Project	Project Addition	
76	Perris Boulevard	South of Cottonwood Avenue	70.8	70.9	0.1	No
77	Perris Boulevard	North of Alessandro Boulevard	71.0	71.1	0.1	No
78	Perris Boulevard	South of Alessandro Boulevard	71.0	71.1	0.1	No
79	Perris Boulevard	North of Cactus Avenue	70.6	70.7	0.1	No
80	Perris Boulevard	South of Cactus Avenue	71.9	72.0	0.1	No
81	Perris Boulevard	North of John F. Kennedy Drive	71.6	71.7	0.1	No
82	Perris Boulevard	South of John F. Kennedy Drive	72.2	72.4	0.2	No
83	Perris Boulevard	North of Gentian Avenue	71.9	72.2	0.2	No
84	Perris Boulevard	Gentian Avenue to Driveway 3	71.8	72.1	0.3	No
85	Perris Boulevard	Driveway 3 to Driveway 4	71.8	72.0	0.3	No
86	Perris Boulevard	Driveway 4 to Santiago Drive	71.8	72.0	0.3	No
87	Perris Boulevard	Santiago Drive to Iris Avenue	72.1	72.3	0.3	No
88	Perris Boulevard	South of Iris Avenue	71.8	71.9	0.1	No
89	Perris Boulevard	North of Krameria Avenue	72.0	72.2	0.1	No
90	Perris Boulevard	South of Krameria Avenue	72.0	72.2	0.1	No
91	Perris Boulevard	North of San Michele Road	72.0	72.1	0.1	No
92	Perris Boulevard	San Michele Road to Nandina Avenue	72.4	72.5	0.1	No
93	Perris Boulevard	South of Nandina Avenue	72.3	72.4	0.1	No
94	Perris Boulevard	North of Harley Knox Boulevard	69.2	69.3	0.1	No
95	Perris Boulevard	South of Harley Knox Boulevard	68.1	68.2	0.1	No
96	Perris Boulevard	North of Ramona Expressway	70.3	70.3	0.1	No
97	Perris Boulevard	South of Ramona Expressway	70.0	70.0	0.0	No
98	Kitching Street	North of Cactus Avenue	66.6	66.7	0.1	No
99	Kitching Street	South of Cactus Avenue	63.1	63.2	0.1	No
100	Kitching Street	North of John F. Kennedy Drive	63.6	63.7	0.1	No
101	Kitching Street	South of John F. Kennedy Drive	63.3	63.3	0.0	No
102	Kitching Street	North of Iris Avenue	66.3	66.3	0.0	No
103	Kitching Street	South of Iris Avenue	65.6	65.7	0.0	No
104	Lasselle Street	North of Iris Avenue	68.9	69.0	0.0	No
105	Lasselle Street	South of Iris Avenue	69.7	69.7	0.0	No

7.2 EXISTING PROJECT TRAFFIC NOISE LEVEL CONTRIBUTIONS

Table 7-7 presents a comparison of the existing without and with Project conditions CNEL noise levels. From this we can see that the unmitigated exterior noise levels are expected to range from 53.6 to 70.2 dBA CNEL. Existing with Project noise level contours are expected to range from 54.0 to 70.3 dBA CNEL. Overall the Project is expected to generate an unmitigated maximum exterior noise level increase of up to 1.2 dBA CNEL. In no instances would Project vehicular-source noise result in or cause noise levels along potentially affected roadway segments to transition from an acceptable ambient noise environment (<65 dBA CNEL) to a noise environment greater than 65 dBA CNEL.

7.3 YEAR 2018 PROJECT TRAFFIC NOISE LEVEL CONTRIBUTIONS

Table 7-8 presents a comparison of the Year 2018 without and with Project conditions CNEL noise levels. Table 7-3 shows that the unmitigated exterior noise levels are expected to range from 54.8 to 72.5 dBA CNEL. Table 7-4 presents the Year 2018 with Project conditions noise level contours that are expected to range from 55.0 to 72.5 dBA CNEL. As shown on Table 7-8 the Project is expected to generate an unmitigated exterior noise level increase of up to 1.0 dBA CNEL. In no instances would the Project generate perceptible (3.0 dBA or greater) vehicular-source noise that would result in or cause noise levels along potentially affected roadway segments to transition from an acceptable ambient noise environment (<65 dBA CNEL) to a noise environment greater than 65 dBA CNEL.

7.4 YEAR 2035 PROJECT TRAFFIC NOISE LEVEL CONTRIBUTIONS

Table 7-9 presents a comparison of the Year 2035 without and with Project conditions CNEL noise levels. Table 7-5 shows that the unmitigated exterior noise levels are expected to range from 56.8 to 73.0 dBA CNEL. Table 7-6 presents the Year 2035 with Project conditions noise level contours that are expected to range from 57.2 to 73.0 dBA CNEL. As shown on Table 7-9 the Project is expected to generate an unmitigated exterior noise level increase of up to 0.8 dBA CNEL. In no instances would the Project generate perceptible vehicular-source noise that would result in or cause noise levels along potentially affected roadway segments to transition from an acceptable ambient noise environment (<65 dBA CNEL) to a noise environment greater than 65 dBA CNEL.

7.5 PROJECT TRAFFIC NOISE IMPACTS

The off-site traffic noise analysis shows that the Project will create noise level increases of up to 1.2 dBA CNEL for Existing with Project conditions. This increase is expected to decrease to 1.0 dBA CNEL by Year 2018 conditions and to 0.8 dBA CNEL by Year 2035 conditions. Generally, the Project's incremental traffic-related noise level increases at land uses adjacent to roadways conveying Project traffic will diminish over time. This occurs as the background traffic on the study area roadway segments increases and the Project represents a smaller percentage of the overall traffic volume. This analysis shows that the Project will not create a substantial permanent increase in traffic-related noise levels or expose persons to noise levels in excess of the exterior noise level standards, and therefore, no off-site traffic noise mitigation is required.

In no instances would the Project generate perceptible vehicular-source noise that would result in or cause noise levels along potentially affected roadway segments to transition from an acceptable ambient noise environment (<65 dBA CNEL) to a noise environment greater than 65 dBA CNEL. On this basis, Project vehicular-source noise would not result in exposure of persons to, or generation of, noise levels in excess of standards established in the City's General Plan, and potential impacts in this regard would be less-than-significant.

8 SENSITIVE RECEPTORS

To assess the long-term operational and short-term construction noise impacts, the following eleven sensitive receptor locations as shown on Exhibit 8-A were identified. Sensitive receptors are generally defined as locations where people reside or where the presence of unwanted sound could otherwise adversely affect the use of the land. Noise sensitive land uses are generally considered to include: schools, hospitals, single-family dwellings, mobile home parks, churches, libraries, and recreation areas. Moderately noise-sensitive land uses typically include: multi-family dwellings, hotels, motels, dormitories, out-patient clinics, cemeteries, golf courses, country clubs, athletic/tennis clubs, and equestrian clubs. Land uses which are considered relatively insensitive to noise include business, commercial, and professional developments. Land uses that are typically not affected by noise include: industrial, manufacturing, utilities, agriculture, natural open space, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals.

Sensitive receptors in the vicinity of the Project site include the existing single-family residential development tracts located at receptor locations R1 to R3, R5, and R7 to R9. Future residential development in the Project study area is represented by receptor locations R10 and R11. The closest noise-sensitive receptor is represented by location R9 where an existing single-family residential dwelling is located east of the Project site across Perris Boulevard.

R1: Located approximately 750 feet north of the Project site, R1 represents the existing single-family residential dwellings along Fay Avenue.

R2: Location R2 represents the existing single-family residential dwellings along Fay Avenue located roughly 710 feet north of the Project Site. A long-term noise level measurement was taken at this location, LT-3, to describe the existing ambient noise environment.

R3: Location R3 represents the existing single-family residential dwellings situated approximately 1,540 feet west of the Project site. A long-term noise level measurement was taken at this location, LT-5, to describe the existing ambient noise environment.

R4: Location R4 represents March Middle School located approximately 1,180 feet southwest of the Project site. Long-term noise level measurement Lt-4 is used to describe the existing ambient noise conditions at this location.

R5: At a distance of approximately 750 feet southwest of the Project site, location R5 represents the existing single-family residential dwelling along Emma Lane.

R6: At a distance of 470 feet south of the Project site, R6 describes the existing Home Depot located west of Perris Boulevard and north of Iris Avenue.

R7: Location R7 represents the single-family land use located approximately 250 feet southeast of the Project site. Long-term measurement location LT-1 is used to describe the existing ambient noise conditions at this location.

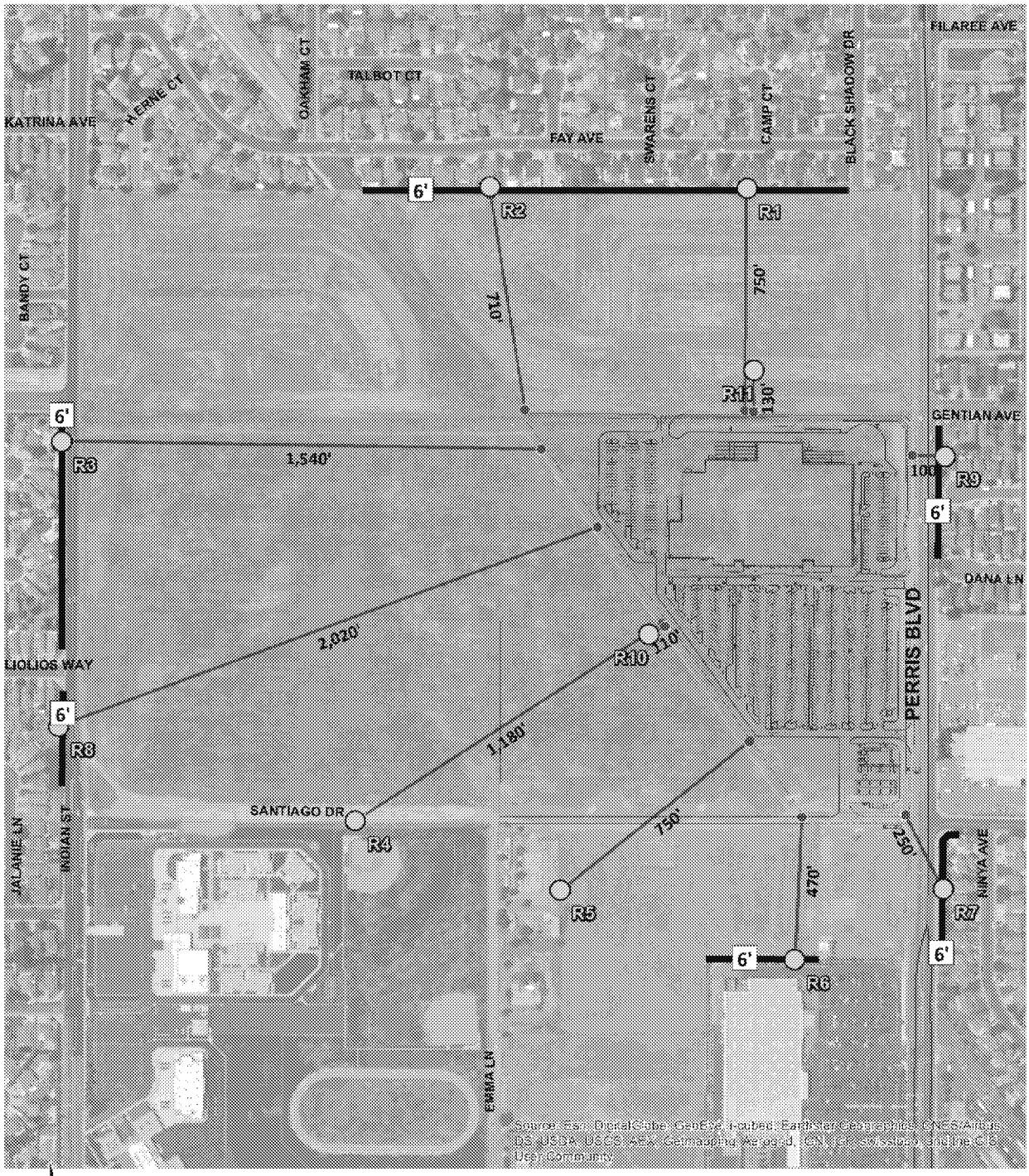
R8: Located approximately 2,020 feet west of the Project site, R8 represents the existing single family residential homes on Indian Street.

R9: Location R9 represents the existing single-family residential dwellings across Perris Boulevard approximately 100 feet east of the Project site.

R10: Located approximately 110 feet southwest of the Project site, R10 represents the future development of single family residential tract homes on an existing vacant lot.

R11: Location R11 represents the future development of single family residential tract homes on an existing vacant lot, located approximately 130 feet north of the Project site.

EXHIBIT 8-A: NOISE RECEPTOR LOCATIONS



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9 OPERATIONAL NOISE IMPACTS

This section analyzes the potential operational noise impacts resulting from the development of the proposed Moreno Valley Walmart. Using a stationary-source noise prediction model, calculations of the Project operational noise level impacts were completed.

9.1 OPERATIONAL NOISE STANDARDS

The Noise Ordinance included in the City of Moreno Valley Municipal Code provides performance standards and noise control guidelines for determining and mitigating non-transportation or stationary/area noise source impacts from operations at private properties. The maximum allowable stationary/area-source noise levels are regulated pursuant to the City of Moreno Valley Municipal Code, Chapter 11.80 Noise Regulation (Sections 11.80.010 through 11.80.060). The City of Moreno Valley Noise Ordinance is included in Appendix 3.3.

To conform with applicable provisions of the Municipal Code, the maximum allowable noise generated by area/stationary sources when measured at 200 feet from any property line, shall not exceed 65dBA Leq during daytime hours (8:00 a.m. to 10:00 p.m. the same day); and shall not exceed 60 dBA Leq during nighttime hours (10:01 p.m. to 7:59 a.m. the following day).

9.2 OPERATIONAL NOISE SOURCES

The operational noise impacts associated with the proposed Project are expected to include loading docks, trash compactors, roof-top air condenser units, shopping cart carousels, parking lot, and car wash activities as indicated on Exhibit 9-A. The proposed Project design features which include an 8-foot high barrier at the northeast corner of the Project site and 10-foot high barriers at the trash compactor and truck loading areas are shown on Exhibit 9-A. Exhibit 8-A identifies the location of the eleven noise receptor locations used to assess the operational noise level impacts, as well as the existing barrier locations. Noise sensitive receptor locations R10 and R11 represent the residential neighborhoods planned north and west of the Project site.

9.3 REFERENCE NOISE LEVELS

To estimate the Project operational noise impacts, reference noise level measurements were collected from similar types of activities to represent the noise levels expected with the development of the proposed Project. This section provides a detailed description of the reference noise level measurements shown on Table 9-1 used to estimate the Project operational noise impacts. It is important to note that the following projected noise levels assume the worst-case noise environment with the loading docks, trash compactors, roof-top air condenser units, shopping cart carousels, parking lot and car wash activities all operating simultaneously. In reality, these noise level impacts will vary throughout the day.

EXHIBIT 9-A: OPERATIONAL NOISE SOURCE LOCATIONS

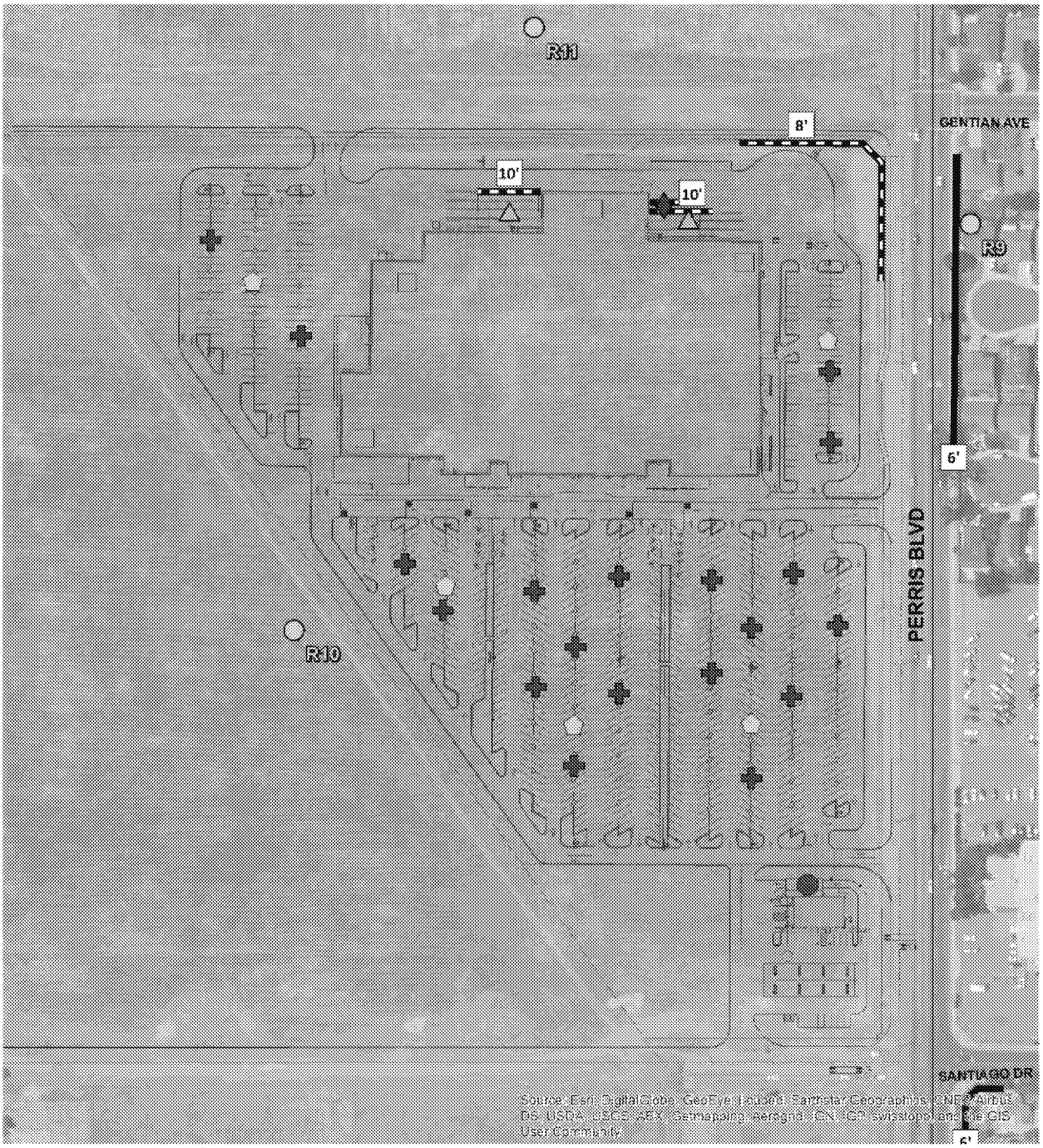

TABLE 9-1: REFERENCE NOISE LEVEL MEASUREMENTS

Noise Source	Duration (mm:ss)	Distance From Source (Feet)	Noise Source Height (Feet)	Hourly Activity (Minutes)[6]	Hourly (Leq dBA)
Loading Dock Activities[1]	1:00	20'	8'	18	77.3
Trash Compactor[2]	2:22	5'	5'	20	75.5
Air Condenser[3]	1:00	5'	25'	30	81.9
Shopping Cart Carousel[4]	0:16	5'	3'	20	72.9
Parking Lot Activity[4]	15:00	5'	4'	60	60.1
Car Wash[5]	8:43	10'	9'	30	76.5

[1] As measured at the Huntington Beach Walmart by Urban Crossroads, Inc. on 4/14/2011.
[2] As measured at the Irvine Walmart Supercenter located on 16555 Von Karman Avenue by Urban Crossroads, Inc. on 1/23/2014.
[3] As measured by Urban Crossroads, Inc. on 10/13/2010 at the Rancho Cordova Walmart #2457.
[4] As measured by Urban Crossroads, Inc. on 5/30/2012 at the Laguna Niguel Walmart located at 27470 Alicia Parkway.
[5] As measured by Urban Crossroads, Inc. on 11/8/2013 at the Plano Trabuco Shell Gas Station Car Wash.
[6] Duration (minutes within the hour) of noise activity during peak hourly conditions.

9.3.1 LOADING DOCKS

As part of its operations, the proposed Moreno Valley Walmart will include truck doors and loading facilities at the rear of the store. Loading docks will be located along the store's northerly (rear) elevation to accommodate truck and vendor deliveries. Truck deliveries may occur 24 hours per day, and would consist of both semi-trucks (larger deliveries would be accomplished by way of 3+ axle tractor-trailer combinations with trailers up to 53 feet in length), and small to medium size (two-axle) trucks.

It is expected that the loading docks would be constructed to allow trailers to seal to the docks, thereby directing the unloading noise into the store, rather than onto neighboring uses. The loading dock areas would also be screened by a proposed 10-foot high wall as shown in Exhibit 9-A. In order to evaluate the noise impacts associated with the delivery truck tractor trailer unloading/loading activities, reference noise level measurements were taken at the Huntington Beach Walmart located at the southwest corner of Goldenwest Street and Edinger Avenue by Urban Crossroads Inc. on April 14th, 2011.

The primary noise generated by tractor trailer unloading is the noise of the truck arriving, backing into the dock area, detaching the cab, attaching the cab to the empty trailer, and exiting the loading dock. Because the trailer seals to the loading dock, employees unload the tractor trailer from the inside of the store. The receiving crew places a 20' long rolling conveyor assembly inside the trailer to roll merchandise (on pallets or in boxes) into the store. The unmitigated noise level was measured at 77.3 dBA Leq at a distance of 20 feet from the tractor trailer. Delivery truck delivery activities will last an average of 3–6 minutes per truck, depending on whether or not the loading bay is empty at the time of arrival. In the event idling does occur, idling time would be limited to no more than 5 minutes under California State law (Cal Code Regs. 2485). Delivery trucks are generally equipped with an engine shutdown system that automatically turns off the engine after 5 minutes of idling. In order to analyze a worst-case condition for noise impacts related to delivery, it is assumed that there would be a

maximum of three delivery trucks coming to the loading docks and completing delivery activities within a 1-hour period for both daytime and nighttime hours. For the purpose of this noise analysis, a maximum average delivery time of 6 minutes per delivery is used for a total of 18 minutes of activity during the peak noise hour.

9.3.2 TRASH COMPACTORS

In order to assess the impacts created by the trash compactors planned on the Project site, reference noise levels were gathered from the Irvine Walmart Supercenter located on 16555 Von Karman Avenue, by Urban Crossroads Inc. on Thursday, January 23rd, 2014. The unmitigated exterior noise levels were measured at 75.5 dBA Leq at a distance of 5 feet from the compactor. A review of the site plan shows a proposed trash compactor located behind the planned 10-foot high screen wall. It is expected the trash compactor will operate for a maximum of 20 minutes during typical hourly daytime and nighttime conditions.

9.3.3 AIR CONDENSER UNITS

In order to assess the impacts created by the roof-top air conditioning units at the planned Project site, reference noise levels measurements were taken at the Rancho Cordova Walmart on October 13th, 2010. Located at 10655 Folsom Boulevard in the City of Rancho Cordova, the noise level measurements describe a cluster of mechanical rooftop condensers. The cluster consists of two Krack MXE-04 4-fan units and one MXE-02 2-fan unit. At a distance of 5 feet for the cluster of rooftop condensers, the exterior noise levels were measured at 81.9 dBA Leq. For the purpose of this noise analysis, the air condenser units were observed to be located on the roof at a noise elevation of 25 feet and are estimated to operate for approximately 30 minutes during typical daytime and nighttime conditions. The potential noise attenuation provided by a parapet wall was not included as part of this analysis.

9.3.4 SHOPPING CART CAROUSEL (METAL CARTS)

To evaluate the noise level impacts from shopping carts placed by customers into assigned shopping cart areas, Urban Crossroads collected noise level measurements at the Laguna Niguel Walmart located at 27470 Alicia Parkway on May 30th, 2012. At a distance of 5 feet from the noise source, the noise associated with the placement of the shopping carts into the carousel was measured at 72.9 dBA Leq. The noise impacts are mainly due to the metal shopping carts crashing into other carts already placed in the carousel as well as striking the side rails. This noise impact analysis includes the noise level impacts associated with the adjacent shopping cart carousels with noise impacts expected for approximately 20 minutes an hour for the typical daytime and nighttime conditions.

9.3.5 PARKING LOT ACTIVITY

To determine the noise level impacts associated with parking lot noise, Urban Crossroads collected reference noise level measurements at the at the Laguna Niguel Walmart located at 27470 Alicia Parkway on May 30th, 2012. The fifteen minute noise level measurement indicates that the parking lot activity generates a noise level of 60.1 dBA Leq at a distance of 5 feet. The parking lot noise levels are mainly due to cars pulling in and out of spaces, car alarms sounding,

and customers moving shopping carts. Noise associated with parking lot activity is expected during the typical daytime and nighttime conditions for the entire hour (60 minutes).

9.3.6 CAR WASH

To describe the potential noise level impacts associated with the planned car wash at the southeast corner of the Project site, a reference noise level measurement was collected on November 8th, 2013 at the Plano Trabuco Shell Gas Station car wash. The reference noise level measurement includes one complete car wash cycle. The high powered blowers that are used to dry the car at the end wash cycle represent the primary source of car wash noise. As shown on Table 9-1, at a distance of 10 feet from the exit tunnel and blowers, a reference noise level of 76.5 dBA Leq was measured. Noise associated with car wash activity is expected during the typical daytime and nighttime conditions for approximately 30 minutes an hour.

9.4 PROJECT OPERATIONAL NOISE LEVELS

Based upon the reference noise levels, it is possible to estimate the Project operational stationary/area source noise levels at a distance of 200 feet and at each of the eleven noise receptor locations. The operational noise level calculations shown on Tables 9-2 and 9-3 account for the distance attenuation provided due to geometric spreading, when sound from a localized stationary source (i.e., a point source) propagates uniformly outward in a spherical pattern. With geometric spreading, sound levels attenuate (or decrease) at a rate of 6 dB for each doubling of distance from a point source.

Table 9-2 presents the combined total operational noise level projections at a distance of 200 feet consistent with the City of Moreno Valley Municipal Code. Table 9-2 indicates that the unmitigated hourly noise levels for each noise source are expected to range from 28.1 dBA Leq for the Parking Lot activities to 52.1 dBA Leq for the Loading Dock Activities.

When combined with the existing ambient noise levels, the Project operational noise levels at a distance of 200 feet are estimated at 54.4 dBA Leq. The Project operational noise levels associated with the proposed Moreno Valley Walmart will not exceed the daytime and nighttime exterior noise level standards for commercial uses of 65 dBA Leq and 60 dBA Leq, respectively at a distance of 200 feet and, therefore, will be less than significant.

Table 9-3 presents the exterior noise levels including the barrier attenuation provided by the proposed 8-foot high barrier at the northeastern Project site boundary, the proposed 10-foot high barriers at the loading docks and trash compactor areas, and the existing noise barriers observed within the Project study area, as shown on Exhibit 9-A. Table 9-3 indicates that the hourly noise levels associated with the Moreno Valley Walmart at the eleven noise sensitive receptor locations are expected to range from 27.9 dBA Leq at receptor location R8 to 47.1 dBA Leq at receptor location R11. The operational noise level calculations are included in Appendix 9.1.

TABLE 9-2: OPERATIONAL NOISE LEVEL PROJECTIONS AT A DISTANCE OF 200 FEET

Noise Source	Reference Noise Level (dBA Leq)	Distance Attenuation at 200 feet (dBA Leq)[1]	Hourly Activity (Minutes)[2]	Hourly Activity Adjustment (dBA Leq)	Calculated Noise Level (dBA Leq) at 200 feet
Loading Dock Activities	77.3	-20.0	18	-5.2	52.1
Trash Compactor	75.5	-32.0	20	-4.8	38.7
Air Condenser	81.9	-32.0	30	-3.0	46.8
Shopping Cart Carousel	72.9	-32.0	20	-4.8	36.1
Parking Lot Activity	60.1	-32.0	60	0.0	28.1
Car Wash Activity	76.5	-26.0	30	-3.0	47.5
Combined Total:					54.4

[1] Point (stationary) source drop off rate of 6 dBA per doubling of distance.
[2] Duration (minutes within the hour) of noise activity during peak hourly conditions.

TABLE 9-3: OPERATIONAL NOISE LEVEL PROJECTIONS AT RECEPTOR LOCATIONS

Noise Source	Noise Levels at Receptor Locations (dBA Leq)[1]										
	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11
Loading Dock Activities	34.3	31.5	26.1	33.7	34.7	28.6	29.7	25.4	41.2	42.0	43.0
Trash Compactor	20.8	16.9	11.8	19.4	20.7	15.1	16.0	11.2	26.7	27.0	24.4
Air Condenser	29.3	26.5	21.6	30.5	31.9	25.5	27.0	21.4	37.9	43.9	44.6
Shopping Cart Carousel	16.9	17.1	11.8	20.1	23.0	18.1	20.2	11.0	27.6	37.2	27.6
Parking Lot Activity	8.6	8.4	3.5	11.9	14.6	9.4	11.3	2.8	20.6	27.4	19.8
Car Wash Activity	23.0	21.5	19.3	29.3	32.9	30.9	34.2	19.9	28.6	35.6	31.7
Combined Noise Levels	**35.9**	**33.2**	**28.3**	**36.6**	**38.3**	**33.8**	**36.3**	**27.9**	**43.3**	**47.0**	**47.1**

[1] See Exhibit 8-A for the noise receptor locations. Appendix 9.1 for the stationary source noise analysis worksheets. Noise levels include the barrier attenuation provided by existing barriers at each receptor location and the proposed 8 and 10-foot barriers at the Project site.

9.5 PROJECT NOISE CONTRIBUTION

To describe the Project operational noise level contributions, the Project operational noise levels were combined with the existing ambient noise levels measurements. The difference between the combined Project and ambient noise levels describe the Project noise level contributions. Noise levels that would be experienced at area receptors when Project-source noise is added to ambient daytime and nighttime conditions are presented on Tables 9-4 and 9-5, respectively.

TABLE 9-4: DAYTIME (8:00 A.M. TO 10:00 P.M.) OPERATIONAL NOISE LEVELS

Receptor Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Contribution[6]	Potentially Significant Impact?
R1	35.9	LT-3	44.1	44.7	0.6	No
R2	33.2	LT-3	44.1	44.4	0.3	No
R3	28.3	LT-5	69.0	69.0	0.0	No
R4	36.6	LT-4	46.7	47.1	0.4	No
R5	38.3	LT-4	46.7	47.3	0.6	No
R6	33.8	LT-4	46.7	46.9	0.2	No
R7	36.3	LT-1	70.2	70.2	0.0	No
R8	27.9	LT-5	69.0	69.0	0.0	No
R9	43.3	LT-2	71.7	71.7	0.0	No
R10	47.0	LT-4	46.7	49.9	3.2	No
R11	47.1	LT-3	44.1	48.9	4.8	No

[1] See Exhibit 8-A for the noise receptor locations.
[2] Total Project operational noise level with barrier attenuation as shown on Table 9-3.
[3] Reference noise level measurement locations as shown on Exhibit 5-A.
[4] Observed daytime ambient noise levels as shown on Table 5-1.
[5] Represents the combined ambient conditions plus the Project activities.
[6] The noise level increase expected with the addition of the proposed Project activities.

TABLE 9-5: NIGHTTIME (10:01 P.M. TO 7:59 A.M.) OPERATION NOISE LEVELS

Receptor Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Contribution[6]	Potentially Significant Impact?
R1	35.9	LT-3	41.0	42.2	1.2	No
R2	33.2	LT-3	41.0	41.7	0.7	No
R3	28.3	LT-5	66.7	66.7	0.0	No
R4	36.6	LT-4	41.9	43.0	1.1	No
R5	38.3	LT-4	41.9	43.5	1.6	No
R6	33.8	LT-4	41.9	42.5	0.6	No
R7	36.3	LT-1	68.4	68.4	0.0	No
R8	27.9	LT-5	66.7	66.7	0.0	No
R9	43.3	LT-2	70.4	70.4	0.0	No
R10	47.0	LT-4	41.9	48.2	6.3	No
R11	47.1	LT-3	41.0	48.0	7.0	No

[1] See Exhibit 8-A for the noise receptor locations.
[2] Total Project operational noise level with barrier attenuation as shown on Table 9-3.
[3] Reference noise level measurement locations as shown on Exhibit 5-A.
[4] Observed daytime ambient noise levels as shown on Table 5-1.
[5] Represents the combined ambient conditions plus the Project activities.
[6] The noise level increase expected with the addition of the proposed Project activities.

As indicated in Tables 9-4 and 9-5, the Project would contribute operational stationary/area-source noise levels of up to 4.8 dBA Leq (daytime) and 7.0 dBA Leq (nighttime) at nearby receptor locations. However, in no instance would Project operational stationary area-source noise cause or result in exceedance of the maximum acceptable ambient condition (65 dBA daytime/60 dBA nighttime). Nor would Project operational stationary/area-source noise result in an increase of 1.5 dBA or greater in instances where noise levels without the Project already exceed the maximum acceptable ambient condition. On this basis, Project operational stationary/area-source noise would not result in a substantial temporary/periodic, or permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project, and impacts in these regards are less-than-significant.

9.6 OPERATIONAL VIBRATION IMPACTS

Although the human threshold of perception for vibration is around 65 VdB, human response to vibration is not usually significant unless the vibration exceeds 70 VdB. Truck vibration levels are dependent on vehicle characteristics, load, speed and pavement condition. Typical vibration levels for heavy trucks on normal traffic speeds can reach levels below 65 VdB. Truck deliveries transiting on site will be travelling at very low speeds so it is expected that delivery truck vibration impacts nearby homes will be less than significant. Commercial developments typically do not operate machinery that can create significant long-term vibration impacts.

10 CONSTRUCTION NOISE IMPACTS

This section analyzes potential impacts resulting from the short-term off-site construction activities associated with the development of the Project.

10.1 CITY OF MORENO VALLEY CONSTRUCTION NOISE STANDARDS

As a subset of its stationary/area-source noise regulations, the City Municipal Code establishes additional restrictions on construction-source noise. More specifically, Municipal Code Section 11.80.030.D.7, *Construction and Demolitions*, provides the following limits to the hours of general construction equipment operations:

> *No person shall operate or cause operation of any tools or equipment used in construction, drilling, repair, alteration or demolition work between the hours of eight p.m. and seven a.m. the following day such that the sound there from creates a noise disturbance, except for emergency work by public service utilities or for other work approved by the city manager or designee.*

However, grading operations shall be limited to the hours identified in Section 8.21.050 (O) of 7:00 a.m. to 6:00 p.m., Monday through Friday, and 8:00 a.m. to 4:00 p.m. on weekends and holidays or as approved by the City Engineer. In addition to the hours of operations limitations provided in the Noise Ordinance, Section 11.80.030 (C.), *Non-impulsive Sound Decibel Limits* states the following:

> *No person shall maintain, create, operate or cause to be operated on private property any source of sound in such a manner as to create any non-impulsive sound which exceeds the limits set forth for the source land use category in Table 11.80.030-2 when measured at a distance of two hundred (200) feet or more from the real property line of the source of the sound, if the sound occurs on privately owned property, or from the source of the sound, if the sound occurs on public right-of-way, public space or other publicly owned property. Any source of sound in violation of this subsection shall be deemed prima facie to be a noise disturbance.* (9)

Even though the City of Moreno Valley Municipal Code does not identify specific construction noise limits; it does provide noise level limits for the source land use category when measured at a distance of 200 feet. Since the source land use (commercial) is other than residential, 65 dBA Leq at a distance of 200 feet is used as the limit for this analysis to assess the construction noise level impacts. Therefore, to conform with applicable provisions of the Municipal Code, the maximum allowable noise generated by on-site construction activities when measured at 200 feet from any property line, shall not exceed 65dBA Leq. To ensure that Project construction activities do not adversely affect ambient noise conditions during the nighttime hour of 7:00 a.m. to 8:00 a.m., and to demonstrate compliance with provisions of Municipal Code Sections 11.80.030.D.7 and 8.21.050.O, noise-generating Project construction activities shall be prohibited between the hours of 8:00 p.m. to 8:00 a.m. for general construction operations. Grading operations shall be prohibited between the hours of 6:00 p.m. to 8:00 a.m. on weekdays, and 4:00 p.m. to 8:00 a.m. on weekends and holidays.

10.2 CONSTRUCTION NOISE LEVELS

Construction noise represents a short-term impact on the ambient noise levels. Noise generated by construction equipment, including trucks, power tools, concrete mixers and portable generators can reach high levels. Project construction is expected to occur in four stages:

- Grading
- Utilities / Underground
- Curb, Gutter, Flatwork and Parking Lot
- Building / Painting

In January 2006, the Federal Highway Administration (FHWA) published the Roadway Construction Noise Model (RCNM) that includes a national database of construction equipment reference noise emission levels.(15) The RCNM equipment database, as shown in Appendix 10.1, provides a comprehensive list of the noise generating characteristics for specific types of construction equipment. In addition, the database provides an acoustical usage factor to estimate the fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during a construction operation. The usage factor is a key input variable of the RCNM noise prediction model that is used to calculate the average Leq noise levels using the Lmax noise levels measured at a distance of 50 feet

Noise levels generated by heavy construction equipment can range from approximately 70 dBA to in excess of 100 dBA when measured at 50 feet. However, these noise levels diminish with distance from the construction site at a rate of 6 dBA per doubling of distance. For example, a noise level of 78 dBA measured at 50 feet from the noise source to the receptor would be reduced to 72 dBA at 100 feet from the source to the receptor, and would be further reduced to 66 dBA at 200 feet from the source to the receptor. The construction noise levels including the number and mix of construction equipment by construction phase are consistent with the data used to support the construction emissions in the *Moreno Valley Walmart Air Quality Impact Analysis* prepared by Urban Crossroads Inc. in November 2013. (16)

10.3 CONSTRUCTION NOISE ANALYSIS

Using the stationary-source RCNM noise prediction model, calculations of the Project construction noise level impacts at a reference distance of 200 feet and at the eleven noise receptor locations were completed. Tables 10-1 to 10-4 present the short-term construction noise levels for each stage of construction at the eleven receptor locations. The analysis shows that the highest construction noise level impacts will likely occur during the grading phase of construction. As shown on Table 10-5, the unmitigated peak construction noise levels are expected to range from 50.6 to 81.4 dBA Leq at receptor locations R1 through R11. The noise levels at each receptor location include the additional attenuation provided by the existing barriers within the Project study area.

TABLE 10-1: GRADING CONSTRUCTION NOISE LEVELS

Equipment Type[1]	Quantity	Usage Factor[2]	Hours Of Operation[3]	Reference Noise Level @ 50 Feet (Lmax dBA)	Cumulative Level @ 200 Feet (Leq dBA)
Scraper	2	40%	3.2	84.0	71.0
Grader	2	40%	3.2	85.0	72.0
Rubber Tired Dozer	2	40%	3.2	79.0	66.0
Tractor/Loader/Backhoe	2	40%	3.2	78.0	65.0
Excavator	2	40%	3.2	81.0	68.0
Cumulative Hourly Noise Levels 200 Feet (Leq dBA)					76.2
Distance to 65 dBA Leq Contour (Feet)					727

Construction Noise Receptor Location	Distance To Property Line (In Feet)[4]	Distance Attenuation (Leq dBA)[5]	Estimated Noise Barrier Attenuation (Leq dBA)	Construction Noise Level (Leq dBA)
R1	710'	-11.0	-5.5	59.7
R2	750'	-11.5	-5.5	59.2
R3	1,540'	-17.7	-5.5	53.0
R4	1,180'	-15.4	0.0	60.8
R5	750'	-11.5	0.0	64.7
R6	470'	-7.4	-5.5	63.3
R7	250'	-1.9	-5.5	68.8
R8	2,020'	-20.1	-5.5	50.6
R9	100'	6.0	-5.5	76.7
R10	110'	5.2	0.0	81.4
R11	130'	3.7	0.0	80.0

[1] Source: FHWA's Roadway Construction Noise Model, January 2006.
[2] Estimates the fraction of time each piece of equipment is operating at full power during a construction operation.
[3] Represents the actual hours of peak construction equipment activity out of a typical 8 hour workday.
[4] Distance from the nearest point of construction activity to the nearest receptor.
[5] Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

TABLE 10-2: UTILITIES / UNDERGROUND CONSTRUCTION NOISE LEVELS

Equipment Type[1]	Quantity	Usage Factor[2]	Hours Of Operation[3]	Reference Noise Level @ 50 Feet (Lmax dBA)	Cumulative Level @ 200 Feet (Leq dBA)
Rubber Tired Dozer	3	40%	3.2	79.0	67.8
Tractor/Loader/Backhoe	4	40%	3.2	78.0	68.0
Cumulative Hourly Noise Levels 200 Feet (Leq dBA)					70.9
Distance to 65 dBA Leq Contour (Feet)					394

Construction Noise Receptor Location	Distance To Property Line (In Feet)[4]	Distance Attenuation (Leq dBA)[5]	Estimated Noise Barrier Attenuation (Leq dBA)	Construction Noise Level (Leq dBA)
R1	710'	-11.0	-5.5	54.4
R2	750'	-11.5	-5.5	53.9
R3	1,540'	-17.7	-5.5	47.7
R4	1,180'	-15.4	0.0	55.5
R5	750'	-11.5	0.0	59.4
R6	470'	-7.4	-5.5	58.0
R7	250'	-1.9	-5.5	63.4
R8	2,020'	-20.1	-5.5	45.3
R9	100'	6.0	-5.5	71.4
R10	110'	5.2	0.0	76.1
R11	130'	3.7	0.0	74.6

[1] Source: FHWA's Roadway Construction Noise Model, January 2006.
[2] Estimates the fraction of time each piece of equipment is operating at full power during a construction operation.
[3] Represents the actual hours of peak construction equipment activity out of a typical 8 hour workday.
[4] Distance from the nearest point of construction activity to the nearest receptor.
[5] Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

TABLE 10-3: CURB, GUTTER, FLATWORK AND PARKING LOT CONSTRUCTION NOISE LEVELS

Equipment Type[1]	Quantity	Usage Factor[2]	Hours Of Operation[3]	Reference Noise Level @ 50 Feet (Lmax dBA)	Cumulative Level @ 200 Feet (Leq dBA)
Pavers	2	50%	4.0	77.0	65.0
Rollers	2	20%	1.6	80.0	64.0
Paving Equipment	2	40%	3.2	76.0	63.0
Cumulative Hourly Noise Levels 200 Feet (Leq dBA)					68.8
Distance to 65 dBA Leq Contour (Feet)					311

Construction Noise Receptor Location	Distance To Property Line (In Feet)[4]	Distance Attenuation (Leq dBA)[5]	Estimated Noise Barrier Attenuation (Leq dBA)	Construction Noise Level (Leq dBA)
R1	710'	-11.0	-5.5	52.3
R2	750'	-11.5	-5.5	51.8
R3	1,540'	-17.7	-5.5	45.6
R4	1,180'	-15.4	0.0	53.4
R5	750'	-11.5	0.0	57.3
R6	470'	-7.4	-5.5	55.9
R7	250'	-1.9	-5.5	61.4
R8	2,020'	-20.1	-5.5	43.2
R9	100'	6.0	-5.5	69.3
R10	110'	5.2	0.0	74.0
R11	130'	3.7	0.0	72.6

[1] Source: FHWA's Roadway Construction Noise Model, January 2006.
[2] Estimates the fraction of time each piece of equipment is operating at full power during a construction operation.
[3] Represents the actual hours of peak construction equipment activity out of a typical 8 hour workday.
[4] Distance from the nearest point of construction activity to the nearest receptor.
[5] Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

TABLE 10-4: BUILDING CONSTRUCTION / PAINTING NOISE LEVELS

Equipment Type[1]	Quantity	Usage Factor[2]	Hours Of Operation[3]	Reference Noise Level @ 50 Feet (Lmax dBA)	Cumulative Level @ 200 Feet (Leq dBA)
Tractor/Loader/Backhoe	3	40%	3.2	78.0	66.8
Forklift	3	20%	1.6	75.0	60.7
Generator Set	1	50%	4.0	81.0	65.9
Cranes	1	16%	1.3	81.0	61.0
Welder	1	40%	3.2	74.0	58.0
Air Compressor	1	40%	3.2	78.0	62.0
Cumulative Hourly Noise Levels 200 Feet (Leq dBA)					70.7
Distance to 65 dBA Leq Contour (Feet)					385

Construction Noise Receptor Location	Distance To Property Line (In Feet)[4]	Distance Attenuation (Leq dBA)[5]	Estimated Noise Barrier Attenuation (Leq dBA)	Construction Noise Level (Leq dBA)
R1	710'	-11.0	-5.5	54.2
R2	750'	-11.5	-5.5	53.7
R3	1,540'	-17.7	-5.5	47.5
R4	1,180'	-15.4	0.0	55.3
R5	750'	-11.5	0.0	59.2
R6	470'	-7.4	-5.5	57.8
R7	250'	-1.9	-5.5	63.3
R8	2,020'	-20.1	-5.5	45.1
R9	100'	6.0	-5.5	71.2
R10	110'	5.2	0.0	75.9
R11	130'	3.7	0.0	74.4

[1] Source: FHWA's Roadway Construction Noise Model, January 2006.
[2] Estimates the fraction of time each piece of equipment is operating at full power during a construction operation.
[3] Represents the actual hours of peak construction equipment activity out of a typical 8 hour workday.
[4] Distance from the nearest point of construction activity to the nearest receptor.
[5] Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

10.4 CONSTRUCTION NOISE ABATEMENT MEASURES

Based on the four stages of construction, the noise impacts associated with the proposed Project are expected to create temporary high-level noise impacts at receptor locations surrounding the Project site when certain activities occur near the Project property line. Though construction noise is temporary, intermittent and of short duration, and will not present any long-term impacts, the following mitigation measures would reduce any noise level increases produced by the construction equipment to the nearby noise sensitive residential land uses.

- Install temporary noise control barriers that provide a minimum noise level attenuation of 17 dBA when Project construction occurs within 200 feet of existing residential structures. The noise control barrier must present a solid face from top to bottom. The noise control barrier must be high enough and long enough to block the view of the noise source. Unnecessary openings shall not be made.
    - The noise barriers must be maintained and any damage promptly repaired. Gaps, holes, or weaknesses in the barrier or openings between the barrier and the ground shall be promptly repaired.
    - The noise control barriers and associated elements shall be completely removed and the site appropriately restored upon the conclusion of the construction activity.
- Prior to approval of grading plans and/or issuance of building permits, plans shall include a note indicating that for other than grading activities, noise-generating Project construction activities shall not occur between the hours of 8:00 p.m. and 8:00 a.m. Grading operations shall be limited to between the hours of 8:00 a.m. to 6:00 p.m. weekdays, and 8:00 a.m. to 4:00 p.m. on weekends and holidays, or as otherwise approved by the City Engineer. The Project construction supervisor shall ensure compliance with the note and the City shall conduct periodic inspection at its discretion.
- During all Project site construction, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receptors nearest the Project site.
- The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise sensitive receptors nearest the Project site (i.e., to the north and east) during all Project construction.
- The construction contractor shall limit haul truck deliveries to the same hours specified for general construction equipment operations, other than grading (i.e. deliveries are prohibited between the hours of 8:00 p.m. and 8:00 a.m.). The Project Applicant shall prepare a haul route exhibit for review and approval by the City of Moreno Valley Planning Division prior to commencement of construction activities. The haul route exhibit shall design delivery routes to minimize the exposure of sensitive land uses or residential dwellings to delivery truck-related noise.
- The construction contractor shall post a publicly visible sign with the telephone number and person to contact regarding noise complaints. The construction manager, within seventy-two

hours of receipt of a noise complaint, shall either take corrective actions or, if immediate action is not feasible, provide a plan or corrective action to address the source of the noise complaint.

10.5 CONSTRUCTION NOISE THRESHOLDS OF SIGNIFICANCE

To control noise impacts associated with the construction of the proposed Project, the City of Moreno Valley has established limits to the hours of operation and noise level limits for the source land use category when measured at a distance of 200 feet. Since the source land use is other than residential, the 65 dBA Leq at a distance of 200 feet is used as the limit for this analysis to assess the Moreno Valley Walmart construction noise level impacts. Based on the construction noise analysis shown on Table 10-5, the unmitigated Project-related construction noise levels at receptor locations R7 and R9 to R11 will exceed the City of Moreno Valley 65 dBA Leq construction noise level limit for a non-residential source land use such as the proposed Project.

With the installation of temporary exterior noise control barriers with a minimum attenuation of 17 dBA at the perimeter of the Project site, noise levels at the nearby residential receptors are expected to be less than significant. Table 10-6 shows the mitigated peak construction noise levels with the attenuation provided by the temporary construction noise barriers and will not exceed the City of Moreno Valley 65 dBA Leq construction noise level limit. The construction related noise level impacts at the noise sensitive receptor locations are not expected to exceed the City of Moreno Valley 65 dBA Leq construction noise level limit with the installation of temporary construction noise control barriers. Therefore, as mitigated, the construction of the Project will result in a less-than-significant noise impact.

TABLE 10-5: UNMITIGATED CONSTRUCTION EQUIPMENT NOISE LEVELS

Noise Receptor[1]	Ambient Daytime Condition (dBA Leq)	Construction Phase Hourly Noise Level (dBA Leq)[2]					Combined Construction Plus Ambient	Potential Significant Impact?[4]
		Grading	Utilities	Curbs	Building	Peak[3]		
R1	44.1	59.7	54.4	52.3	54.2	59.7	59.8	No
R2	44.1	59.2	53.9	51.8	53.7	59.2	59.4	No
R3	69.0	53.0	47.7	45.6	47.5	53.0	69.1	No
R4	46.7	60.8	55.5	53.4	55.3	60.8	61.0	No
R5	46.7	64.7	59.4	57.3	59.2	64.7	64.8	No
R6	46.7	63.3	58.0	55.9	57.8	63.3	63.4	No
R7	70.2	68.8	63.4	61.4	63.3	68.8	72.6	Yes
R8	69.0	50.6	45.3	43.2	45.1	50.6	69.1	No
R9	71.7	76.7	71.4	69.3	71.2	76.7	77.9	Yes
R10	46.7	81.4	76.1	74.0	75.9	81.4	81.4	Yes
R11	44.1	80.0	74.6	72.6	74.4	80.0	80.0	Yes

[1] Noise receptor locations are shown on Exhibit 8-A.
[2] Construction noise calculations at a distance of 200 feet by phase are included in Appendix 10-2.
[3] Estimated construction noise levels during peak operating conditions.
[4] Does the peak construction noise level exceed the City of Moreno Valley acceptable construction noise standard of 65 dBA Leq?

TABLE 10-6: MITIGATED CONSTRUCTION EQUIPMENT NOISE LEVELS

Noise Receptor[1]	Ambient Daytime Condition (dBA Leq)	Unmitigated Peak Noise Level (dBA Leq)2	Temporary Barrier Noise Attenuation	Mitigated Peak Construction Noise Levels (dBA Leq)[3]	Ambient Plus Mitigated Project Peak	Significant?[4]
R7	70.2	68.8	-17.0	51.8	70.3	No
R9	71.7	76.7	-17.0	59.7	72.0	No
R10	46.7	81.4	-17.0	64.4	64.5	No
R11	44.1	80.0	-17.0	63.0	63.0	No

[1] Noise receptor locations are shown on Exhibit 8-A.
[2] Construction noise calculations at a distance of 200 feet by phase are included in Appendix 10-2.
[3] Estimated construction noise levels during peak operating conditions.
[4] Does the peak construction noise level exceed the City of Moreno Valley acceptable construction noise standard of 65 dBA Leq?

10.5.1 Soil Import and Construction Material Deliveries

Construction of the Project will require soil import and delivery of construction materials. The export/import materials will be transported via 16-cubic yard (cy) capacity dump trucks. Each truck will generate one (1) inbound and one (1) outbound trip, accounting for a total of two (2) truck trips per load of material exported or imported. Soil import is anticipated to consist of the import of 43,137 cubic yards of "fill" soil to the site. Construction material deliveries are anticipated to consist of the export/import of raw building materials, concrete, asphalt, etc.

In order to minimize the impact of construction truck traffic noise to the surrounding roadway network, it is recommended that trucks utilize the most direct route between the site and the I-215 Freeway via Cactus Avenue to Perris Boulevard. It is anticipated that the construction staging will be located off of Perris Boulevard. As such, the proposed construction access on Perris Boulevard will provide the most direct access.

It is recommended that the export and import of construction materials occur during off-peak hours in order to have a minimal traffic noise impact to the surrounding roadway network. It is also recommended that a construction traffic management plan be implemented for the duration of the construction phase, consistent with the *Moreno Valley Walmart Traffic Impact Analysis*.(14)

10.6 Construction Vibration Impacts

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures and soil type. It is expected that ground-borne vibration from Project construction activities would cause only intermittent, localized intrusion. The proposed Project's construction activities most likely to cause vibration impacts are:

- Heavy Construction Equipment: Although all heavy mobile construction equipment has the potential of causing at least some perceptible vibration while operating close to building, the

vibration is usually short-term and is not of sufficient magnitude to cause building damage. It is not expected that heavy equipment such as large bulldozers would operate close enough to any residences to cause a vibration impact.

- Trucks: Trucks hauling building materials to construction sites can be sources of vibration intrusion if the haul routes pass through residential neighborhoods on streets with bumps or potholes. Repairing the bumps and potholes generally eliminates the problem.

Ground-borne vibration levels resulting from construction activities occurring within the Project site were estimated by data published by the Federal Transit Administration. Construction activities that would occur within the Project site are expected to include grading, which would have the potential to generate low levels of ground-borne vibration. Using the vibration source level of construction equipment provided on Table 6-5 and the construction vibration assessment methodology published by the FTA, it is possible to estimate the Project vibration impacts. Table 10-7 presents the expected Project related vibration levels at each of the eleven sensitive receptor locations.

TABLE 10-7: CONSTRUCTION EQUIPMENT VIBRATION LEVELS

Noise Receptor[1]	Distance To Property Line (In Feet)	Receptor Vibration Levels (VdB)[2]					Potential Significant Impact?[3]
		Small Bulldozer	Jackhammer	Loaded Trucks	Large Bulldozer	Peak Vibration	
R1	710'	14.4	35.4	42.4	43.4	43.4	No
R2	750'	13.7	34.7	41.7	42.7	42.7	No
R3	1,540'	4.3	25.3	32.3	33.3	33.3	No
R4	1,180'	7.8	28.8	35.8	36.8	36.8	No
R5	750'	13.7	34.7	41.7	42.7	42.7	No
R6	470'	19.8	40.8	47.8	48.8	48.8	No
R7	250'	28.0	49.0	56.0	57.0	57.0	No
R8	2,020'	0.8	21.8	28.8	29.8	29.8	No
R9	100'	39.9	60.9	67.9	68.9	68.9	No
R10	110'	38.7	59.7	66.7	67.7	67.7	No
R11	130'	36.5	57.5	64.5	65.5	65.5	No

[1] Noise receptor locations are shown on Exhibit 8-A.
[2] Based on the Vibration Source Levels of Construction Equipment included on Table 6-5.
[3] Does the Peak Vibration exceed the FTA maximum acceptable vibration standard of 80 (VdB)?

Based on the reference vibration levels provided by the FTA, a large bulldozer represents the peak source of vibration with a reference level of 87 VdB at a distance of 25 feet. At distances ranging from 100 to 2,020 feet from the Project site, construction vibration levels are expected to range from 0.8 to 68.9 VdB. Using the construction vibration assessment methods provided by the Federal Transit Administration (FTA) the proposed Project site will not include nor require equipment, facilities, or activities that would result in a perceptible human response (annoyance).

The Project construction is not expected to generate vibration levels exceeding the FTA maximum acceptable vibration standard of 80 (VdB). Further, impacts at the site of the closest

sensitive receptor are unlikely to be sustained during the entire construction period, but will occur rather only during the times that heavy construction equipment is operating proximate to the Project site perimeter. Moreover, construction at the Project site will be restricted to daytime hours consistent with City requirements thereby eliminating potential vibration impact during the sensitive nighttime hours. On this basis the potential for the Project to result in exposure of persons to, or generation of, excessive ground-borne vibration is determined to be less than significant.

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11 FINDINGS AND CONCLUSIONS

This report evaluated the potential noise impacts associated with the development of the proposed Project including Project related traffic noise, stationary noise impacts and temporary construction noise impacts. This section summarizes the Project noise impacts and the mitigation measures required to reduce the Project noise impacts to less than significant levels.

11.1 OFF-SITE TRAFFIC NOISE IMPACTS

This report evaluated potential Project off-site traffic-related noise impacts to the study area. The off-site traffic noise analysis shows that the Project noise level increase of up to 1.2 dBA CNEL for Existing with Project conditions is expected to decrease to 1.0 dBA CNEL by Year 2018 conditions and to 0.8 dBA CNEL by Year 2035 conditions. Generally, the Project's incremental traffic-related noise impacts at land uses adjacent to roadways conveying Project traffic will diminish over time. This occurs as the background traffic on the study area roadway segments increases and the Project represents a smaller percentage of the overall traffic volume. This analysis shows that the Project will not create a substantial permanent increase in traffic-related noise levels or expose persons to noise levels in excess of the exterior noise level standards, and therefore, no off-site traffic noise mitigation is required.

In no instances would the Project generate perceptible vehicular-source noise that would result in or cause noise levels along potentially affected roadway segments to transition from an acceptable ambient noise environment (<65 dBA CNEL) to a noise environment greater than 65 dBA CNEL. On this basis, Project vehicular-source noise would not result in exposure of persons to, or generation of, noise levels in excess of standards established in the City's General Plan, and potential impacts in this regard would be less-than-significant.

11.2 OPERATIONAL IMPACTS

The operational noise impacts associated with the proposed Project are expected to include loading docks, trash compactors, roof-top air condenser units, shopping cart carousels, parking lot and car wash activities. The analysis shows that the Project only operational noise levels will range from 28.1 to 52.1 dBA Leq at a distance of 200 feet.

When combined with the existing ambient noise levels, the Project operational noise levels at a distance of 200 feet are estimated at 54.4 dBA Leq. The Project operational noise levels associated with the proposed Moreno Valley Walmart will not exceed the daytime and nighttime exterior noise level standards for commercial uses of 65 dBA Leq and 60 dBA Leq, respectively at a distance of 200 feet and, therefore, will be less than significant.

The noise analysis shows that the Project would contribute operational stationary/area-source noise levels of up to 4.8 dBA Leq (daytime) and 7.0 dBA Leq (nighttime) at nearby receptor locations. However, in no instance would Project operational stationary area-source noise cause or result in an exceedance of the maximum acceptable ambient condition (65 dBA daytime/60 dBA nighttime). Nor would Project operational stationary/area-source noise result in an increase of 1.5 dBA or greater in instances where noise levels without the Project already

exceed the maximum acceptable ambient condition. On this basis, Project operational stationary/area-source noise would not result in a substantial temporary/periodic, or permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project, and impacts in these regards are less-than-significant.

11.3 CONSTRUCTION NOISE IMPACTS

Based on the four stages of construction, the noise impacts associated with the proposed Project are expected to create temporary high-level noise impacts at receptor locations surrounding the Project site when certain activities occur near the Project property line. Though construction noise is temporary, intermittent and of short duration, and will not present any long-term impacts, the following mitigation measures would reduce any noise level increases produced by the construction equipment to the nearby noise sensitive residential land uses.

- Install temporary noise control barriers that provide a minimum noise level attenuation of 17 dBA when Project construction occurs within 200 feet of existing residential structures. The noise control barrier must present a solid face from top to bottom. The noise control barrier must be high enough and long enough to block the view of the noise source. Unnecessary openings shall not be made.
    - The noise barriers must be maintained and any damage promptly repaired. Gaps, holes, or weaknesses in the barrier or openings between the barrier and the ground shall be promptly repaired.
    - The noise control barriers and associated elements shall be completely removed and the site appropriately restored upon the conclusion of the construction activity.
- Prior to approval of grading plans and/or issuance of building permits, plans shall include a note indicating that for other than grading activities, noise-generating Project construction activities shall not occur between the hours of 8:00 p.m. and 8:00 a.m. Grading operations shall be limited to between the hours of 8:00 a.m. to 6:00 p.m. weekdays, and 8:00 a.m. to 4:00 p.m. on weekends and holidays, or as otherwise approved by the City Engineer. The Project construction supervisor shall ensure compliance with the note and the City shall conduct periodic inspection at its discretion.
- During all Project site construction, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receptors nearest the Project site.
- The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise sensitive receptors nearest the Project site (i.e., to the north and east) during all Project construction.
- The construction contractor shall limit haul truck deliveries to the same hours specified for general construction equipment operations, other than grading (i.e. deliveries are prohibited between the hours of 8:00 p.m. and 8:00 a.m.). The Project Applicant shall prepare a haul route exhibit for review and approval by the City of Moreno Valley Planning Division prior to commencement of construction activities. The haul route exhibit shall design delivery routes to

minimize the exposure of sensitive land uses or residential dwellings to delivery truck-related noise.

- The construction contractor shall post a publicly visible sign with the telephone number and person to contact regarding noise complaints. The construction manager, within seventy-two hours of receipt of a noise complaint, shall either take corrective actions or, if immediate action is not feasible, provide a plan or corrective action to address the source of the noise complaint.

11.4 VIBRATION IMPACTS

The Project does not propose uses or activities that would result in permanent on-going vibration sources. The estimated 68.9 VdB due to Project construction activities received at the nearest residential property is below the FTA 80 VdB impact criteria level, and would therefore not be considered an annoyance or an interference at proximate residential land uses. Further, impacts at the site of the closest sensitive receptor are unlikely to be sustained during the entire construction period, but will occur rather only during the times that heavy construction equipment is operating proximate to the Project site perimeter. Moreover, construction at the Project site will be restricted to daytime hours consistent with City requirements thereby eliminating potential vibration impact during evening hours. On this basis the potential for the Project to result in exposure of persons to, or generation of, excessive ground-borne vibration is determined to be less-than-significant.

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12 REFERENCES

1. **California Department of Transportation Environmental Program.** *Technical Noise Supplement - A Technical Supplement to the Traffic Noise Analysis Protocol.* Sacramento, CA : s.n., October 1998.
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3. **U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning, Noise and Air Quality Branch.** *Highway Traffic Noise Analysis and Abatement Policy and Guidance.* June, 1995.
4. **U.S. Department of Transportation, Federal Highway Administration.** *Highway Traffic Noise in the United States, Problem and Response.* April 2000. p. 3.
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8. **City of Moreno Valley.** *General Plan Safety Element (Noise).* July 2006.
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11. **American National Standards Institute (ANSI).** *Specification for Sound Level Meters ANSI S1.4-1983 (R2006)/ANSI S1.4a-1985 (R2006).*
12. **U.S. Department of Transportation, Federal Highway Administration.** *FHWA Highway Traffic Noise Prediction Model.* December 1978. FHWA-RD-77-108.
13. **California Department of Transportation Environmental Program, Office of Environmental Engineering.** *Use of California Vehicle Noise Reference Energy Mean Emission Levels (Calveno REMELs) in FHWA Highway Traffic Noise Prediction.* September 1995. TAN 95-03.
14. **Urban Crossroads, Inc.** *Moreno Valley Walmart Traffic Impact Analysis.* September 2013.
15. **U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning.** *FHWA Roadway Construction Noise Model.* January, 2006.
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13 CERTIFICATION

The contents of this noise study report represent an accurate depiction of the noise environment and impacts associated with the proposed Moreno Valley Walmart Project. The information contained in this noise study report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (949) 660-1994 ext. 203.

Bill Lawson, P.E., INCE
Principal
URBAN CROSSROADS, INC.
41 Corporate Park, Suite 300
Irvine, CA 92606
(949) 660-1994 x203
blawson@urbanxroads.com

EDUCATION

Master of Science in Civil and Environmental Engineering
California Polytechnic State University, San Luis Obispo • December, 1993

Bachelor of Science in City and Regional Planning
California Polytechnic State University, San Luis Obispo • June, 1992

PROFESSIONAL REGISTRATIONS

PE – Registered Professional Traffic Engineer – TR 2537 • January, 2009
AICP – American Institute of Certified Planners – 013011 • June, 1997–January 1, 2012
PTP – Professional Transportation Planner • May, 2007 – May, 2013
INCE – Institute of Noise Control Engineering • March, 2004

PROFESSIONAL AFFILIATIONS

ASA – Acoustical Society of America
ITE – Institute of Transportation Engineers

PROFESSIONAL CERTIFICATIONS

Certified Acoustical Consultant – County of Orange • February, 2011
FHWA-NHI-142051 Highway Traffic Noise Certificate of Training • February, 2013

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APPENDIX 3.1:

CITY OF MORENO VALLEY GENERAL PLAN SAFETY ELEMENT (NOISE)

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also promoted by way of educational programs.

Between July of 2004 and June of 2005, animal services staff responded to 17,077 calls for service. Animal services also returned 1,290 lost pets to their owners and arranged for the adoption of 2,034 pets.

Moreno Valley Animal Shelter

6.3.2 Issues and Opportunities

Irrespective of the efforts of Animal Services and other organizations dedicated to reducing the population of unwanted pets, a large number of unwanted pets are produced every year. Unfortunately, the number of unwanted animals far surpasses the capacity of the shelter and the number of good homes available for adoption.

The need for animal services is expected to grow in proportion to the rate of growth in the local community.

B. ENVIRONMENTAL SAFETY

6.4 NOISE

6.4.1 Background

Noise has long been an accepted part of modern civilization, but excessive noise has become an important environmental concern. Excessive noise can disturb the peace and quiet of neighborhoods. Excessive noise can cause physical and psychological responses. Temporary reactions include, but are not limited to, constriction of blood vessels, secretion of saliva and gastric fluids, changes in heart rate and a feeling of anxiety and discomfort.

Three effects of noise that are of particular concern are interference with speech, interruption of sleep and hearing loss. Sleep interruption can occur when the intruding noise exceeds 45 decibels. Speech interference becomes a problem when the intruding noise is above 60 decibels. Hearing loss can begin to occur with sustained noise levels above 75 decibels.

Section 1092 of Title 25, Chapter 1, Subchapter 1, Article 4, of the California Administrative Code includes noise insulation standards for new multi-family structures (hotels, motels, apartments, condominiums, and other attached dwellings) located within the 60 CNEL contour adjacent to roads, railroads, rapid transit lines, airports or industrial areas. An acoustic analysis is required showing that these multi-family units have been designed to limit interior noise levels with doors and windows closed to 45 CNEL in any habitable room. Title 21 of the California Administration Code (Subchapter 6, Article 2, Section 5014) also specifies that noise levels in all habitable rooms do not exceed 45 CNEL.

6.4.2 Noise Fundamentals

Noise levels are measured on a logarithmic scale in decibels. The measurements are then weighted and added over a specified time period to reflect not only the magnitude of the sound, but also its duration, frequencyand time of occurrence. In this manner, various acoustical scales and units of measurement have been developed such as: equivalent sound levels (Leq), day-night average sound levels (Ldn), Community Noise Equivalent Levels (CNEL's), and

Single Event Noise Exposure Levels (SENEL's).

A-weighted decibels (dBA) approximate the subjective response of the human ear to noise by discriminating against the very low and high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies audible to the human ear. The decibel scale has a value of 1.0 dBA at the threshold of hearing and 140 dBA at the threshold of pain. Each increase of 10 decibels indicates a ten-fold sound energy increase, which is perceived by the human ear as being roughly twice as loud.

Examples of the decibel level of various noise sources are the quiet rustle of leaves (10 dBA), a soft whisper (20 to 30 dBA) and the hum of a small electric clock (40 dBA). Additional examples include the ambient noise in a house kitchen (50dBA), normal conversation at 5 feet (55 dBA) and a busy street at 50 feet (75 dBA).

Day-night average sound levels (Ldn) are a measure of cumulative noise exposure. The Ldn value results from a summation of hourly noise levels over a 24-hour time period with an increased weighting factor applied to the period between 10:00 PM and 7:00 AM. This takes into account the fact that noise that occurs during normal sleeping hours is more annoying. Community Noise Equivalent Levels (CNEL's) is a measure similar to Ldn except it includes an additional penalty for noise that occurs between 7 p.m. and 10 p.m. CNEL values are typically less than one decibel higher than Ldn values.

The Single Event Noise Exposure Level (SENEL) is the appropriate rating scale for a single noise occurrence. The SENEL, given in decibels, is the noise exposure level of a single event measured over the time interval between the initial and final times for which it exceeds the threshold noise level.

For a "line source" of noise such as a heavily traveled roadway, the noise level drops off at a nominal rate of 3.0 decibels for each doubling of distance between the noise source and noise receiver. Environmental factors such as the wind, temperature, the characteristics of the ground (hard or soft) and the air (relative humidity), the presence of grass, shrubs and trees, combine to increase the actual attenuation achieved outside laboratory conditions to 4.5 decibels per doubling of distance. Thus, a noise level of 74.5 decibels at 50 feet from the highway centerline would attenuate to 70.0 decibels at 100 feet, 65.5 decibels at 200 feet, and so forth.

In an area, which is relatively flat and free of barriers, the sound level resulting from a single "point source" drops by 6 decibels for each doubling of distance. This applies to fixed noise sources such as industrial sources and mobile noise sources that are temporarily stationary such as idling trucks.

Important noise sources within the study area include industrial and utility uses, mechanical equipment, loud speakers, aircraft and motor vehicles. Noise levels adjacent to roadways vary with the volume of traffic, the mean vehicular speed, the truck mix and the road cross-section. High traffic volumes and speed along State route 60 and arterial roadways contribute to high noise levels. Noise levels due to air traffic from the joint-use airport at March depend on aircraft characteristics, the number, path, elevation and duration of flights as well as the time of day that flights take place.

The results of the noise analysis prepared for the environmental impact report for the General Plan Update is shown in Figure 6-2. Figure 6-2 can be used as a general guide to determine potential "worst case" future noise levels for planning and design purposes.

6.4.3 Community Responses to Noise

People in general cannot perceive an increase or decrease of 1.0 dBA except in carefully controlled laboratory experiments. A

3.0 dBA increase is considered noticeable outside of the laboratory. An increase of 5.0 dBA is often necessary before any noticeable change in community response (i.e. complaints) would be expected.

Studies have shown that people respond to changes in long-term noise levels. About 10 percent of the people exposed to traffic noise of 60 Ldn will report being highly annoyed with the noise and 2 percent more people become highly annoyed with each unit of Ldn increase in traffic noise. When traffic noise exceeds 60 Ldn or aircraft noise exceeds 55 Ldn, people begin complaining. Group and legal actions to stop the noise may occur at traffic noise levels near 70 Ldn and aircraft noise levels near 65 Ldn.

Approximately 10 percent of the population has such a low tolerance for noise that they object to any noise not of their own making. Consequently, even in the quietest environment, some complaints will occur. Another 25 percent of the population will not complain even in very severe noise environments. Thus, a variety of reactions can be expected.

6.4.4. Planning and Design Considerations

There are many mechanisms available to control noise in the community. A noise ordinance can be adopted to control noise sources, but the best way to minimize the adverse effects of noise is through planning and design.

Planning noise compatible land uses near existing or projected high noise levels is an effective technique. Certain land uses are more compatible with noise than others. Schools, hospitals, churches and single-family residences are relatively sensitive to noise. Multiple-family residential uses are less sensitive to noise than single-family residential uses. Commercial, office and industrial uses are relatively noise tolerant. Where possible, the land use plan places noise tolerant uses within areas impacted by noise from State Route 60, arterial streets and aircraft over flights. The historical land use pattern and other community needs made it impractical to avoid all noise conflicts through land use planning.

Acoustic site planning, architectural design, acoustic construction techniques and noise barriers are effective methods for reducing noise impacts. Acoustic site planning involves the arrangement of lots, buildings, berms and walls to minimize noise conflicts and impacts. Sound walls and berming are often used as sound barriers between residential uses and nonresidential noise sources, such as commercial uses, industrial uses, freeways and other major roadways.

Acoustic architectural design involves the incorporation of noise attenuation strategies in the design of individual structures. Building heights, room arrangements, window size and placement, balcony and courtyard design can be adjusted to shield noise sensitive activities from intrusive sound levels.
Acoustic construction is the treatment of various parts of a building to reduce interior noise levels. Acoustic wall design, doors, ceilings and floors, as well as dense building materials and acoustic windows (double-paned, thick, non-openable, or small windows) are all available options.

6.5 GEOLOGIC HAZARDS

6.5.1 Background

Most of the Moreno Valley study area lies at the eastern margin of a block of the earth's crust known as the "Perris Block." The Perris Block is a mass of granitic rock, generally bounded by the San Jacinto fault, the Elsinore fault, and the Santa Ana River. The Perris Block has had an apparent history of vertical land movements of several thousand feet.

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APPENDIX 3.2:

GENERAL PLAN GUIDELINES

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APPENDIX C

Guidelines for the Preparation and Content of the Noise Element of the General Plan

The noise element of the general plan provides a basis for comprehensive local programs to control and abate environmental noise and to protect citizens from excessive exposure. The fundamental goals of the noise element are:

- To provide sufficient information concerning the community noise environment so that noise may be effectively considered in the land use planning process. In so doing, the necessary groundwork will have been developed so that a community noise ordinance may be utilized to resolve noise complaints.
- To develop strategies for abating excessive noise exposure through cost-effective mitigating measures in combination with zoning, as appropriate, to avoid incompatible land uses.
- To protect those existing regions of the planning area whose noise environments are deemed acceptable and also those locations throughout the community deemed "noise sensitive."
- To utilize the definition of the community noise environment in the form of CNEL or Ldn noise contours as provided in the noise element for local compliance with the State Noise Insulation Standards. These standards require specified levels of outdoor to indoor noise reduction for new multifamily residential constructions in areas where the outdoor noise exposure exceeds CNEL (or Ldn) 60 dB.

The 1976 edition of the *Noise Element Guidelines*, prepared by the California Department of Health Services (DHS), was a result of SB 860 (Beilenson, 1975), which became effective January 1, 1976. SB 860, among other things, revised and clarified the requirements for the noise element of each city and county general plan and gave DHS the authority to issue guidelines for compliance thereto. Compliance with the 1976 version of these guidelines was mandated only for those noise elements that were not submitted to the Office of Planning and Research by the effective date of SB 860 and to subsequent revisions of previously submitted noise elements.

A comparison between the 1976 *Noise Element Guidelines* and this revised edition will not reveal substantial changes. The basic methodology advanced by that previous edition remains topical. Where necessary, code references have been updated and the text revised to reflect statutory changes.

DEFINITIONS

Decibel, dB: A unit of measurement describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).

A-Weighted Level: The sound level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the response of the human ear and gives good correlation with subjective reactions to noise.

L10: The A-weighted sound level that is exceeded ten percent of the sample time. Similarly, L50, L90, etc.

Leq: Equivalent energy level. The sound level corresponding to a steady-state sound level containing the same total energy as a time-varying signal over a given sample period. Leq is typically computed over 1-, 8-, and 24-hour sample periods.

CNEL: Community Noise Equivalent Level. The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of five decibels to sound levels in the evening from 7 p.m. to 10 p.m. and after addition of 10 decibels to sound levels in the night from 10 p.m. to 7 a.m.

Ldn: Day-Night Average Level. The average equivalent A-weighted sound level during a 24-hour day, obtained after the addition of 10 decibels to sound levels in the night after 10 p.m. and before 7 a.m. (Note: CNEL and Ldn represent daily levels of noise exposure averaged on an annual or daily basis, while Leq represents the equivalent energy noise exposure for a shorter time period, typically one hour.)

Noise Contours: Lines drawn about a noise source indicating equal levels of noise exposure. CNEL and Ldn are the metrics utilized herein to describe annoyance due to noise and to establish land use planning criteria for noise.

Ambient Noise: The composite of noise from all sources near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

Intrusive Noise: That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence, and tonal or informational content as well as the prevailing noise level.

Noisiness Zones: Defined areas within a community wherein the ambient noise levels are generally similar (within a range of 5 dB, for example). Typically, all other things being equal, sites within any given noise zone will be of comparable proximity to major noise sources. Noise contours define different noisiness zones.

NOISE ELEMENT REQUIREMENTS

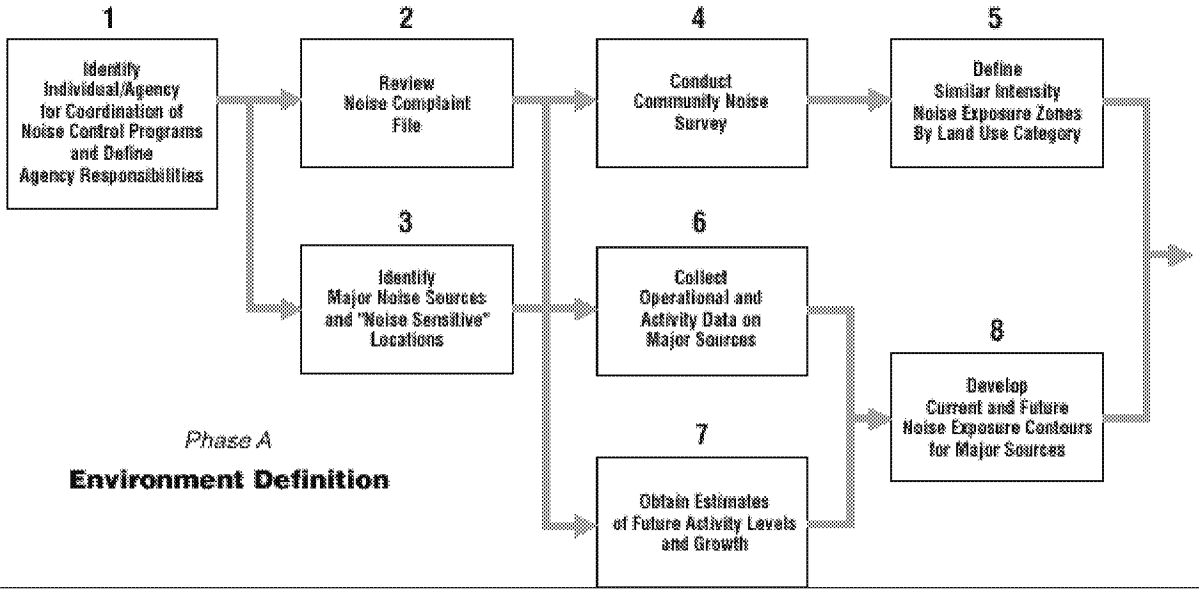
Government Code Section 65302(f): A noise element shall identify and appraise noise problems in the community. The noise element shall recognize the guidelines established by the Office of Noise Control in the State Department of Health Services and shall analyze and quantify, to the extent practicable, as determined by the legislative body, current and projected noise levels for all of the following sources:

1. Highways and freeways.
2. Primary arterials and major local streets.
3. Passenger and freight on-line railroad operations and ground rapid transit systems.
4. Commercial, general aviation, heliport, helistop, and military airport operations, aircraft overflights, jet engine test stands, and all other ground facilities and maintenance functions related to airport operation.
5. Local industrial plants, including, but not limited to, railroad classification yards.
6. Other ground stationary sources identified by local agencies as contributing to the community noise environment.

Noise contours shall be shown for all of these sources and stated in terms of community noise equivalent level (CNEL) or day-night average level (Ldn). The noise contours shall be prepared on the basis of noise monitoring or following generally accepted noise modeling techniques for the various sources identified in paragraphs (1) to (6), inclusive.

The noise contours shall be used as a guide for establishing a pattern of land uses in the land use element that minimizes the exposure of community residents to excessive noise.

Figure 1A



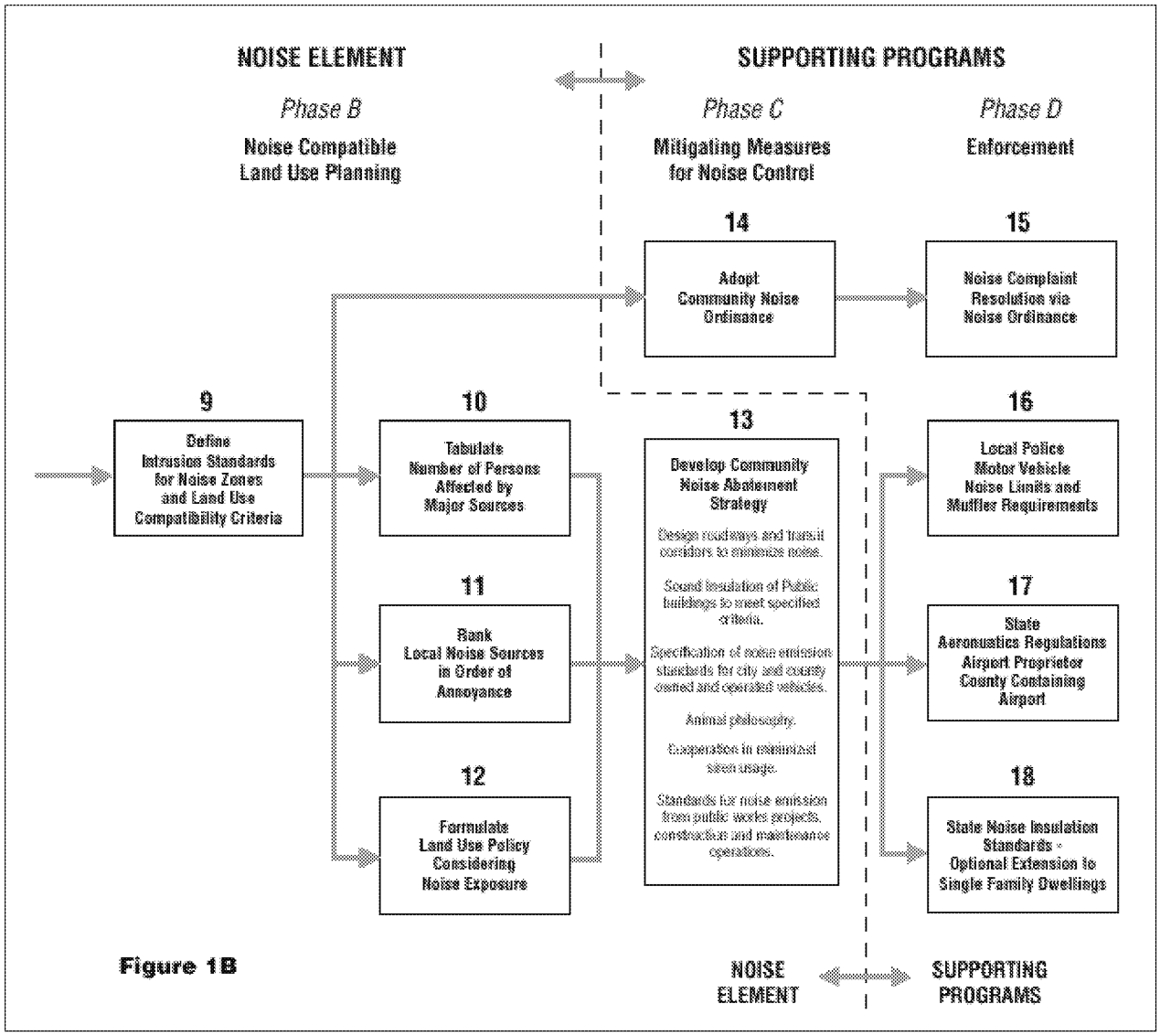


Figure 1B

The noise element shall include implementation measures and possible solutions that address existing and foreseeable noise problems, if any. The adopted noise element shall serve as a guideline for compliance with the state's noise insulation standards.

NOISE ELEMENT DEVELOPMENT PROCESS

The sequential steps for development of a noise element as an integral part of a community's total noise control program are illustrated in the flow diagrams of figures 1A and 1B. The concept presented herein utilizes the noise element as the central focus of the community's program and provides the groundwork for all subsequent enforcement efforts. The process may be described in terms of four phases:

Phase A: Noise Environment Definition

Phase B: Noise-Compatible Land Use Planning

Phase C: Noise Mitigation Measures

Phase D: Enforcement

These phases encompass a total of eighteen defined tasks, the first thirteen of which relate directly to the statutory requirements contained in Government Code §65302(f). The remainder relate to critical supportive programs (noise ordinances, etc.). Citations from §65302(f) are contained within quotation marks.

Phase A: Noise Environment Definition

The purpose of this phase is to adequately identify and appraise the existing and future noise environment of the community in terms of Community Noise Equivalent Level (CNEL) or Day-Night Average Level

(Ldn) noise contours for each major noise source and to divide the city or county into noise zones for subsequent noise ordinance application.

Step 1:

Identify a specific individual or lead agency within the local government to be responsible for coordination of local noise control activities. This individual or agency should be responsible for coordinating all intergovernmental activities and subsequent enforcement efforts.

Step 2:

Review noise complaint files as compiled by all local agencies (police, animal control, health, airport, traffic department, etc.) in order to assess the following:

1. Location and types of major offending noise sources.
2. Noise-sensitive areas and land uses.
3. Community attitudes towards specific sources of noise pollution.
4. Degree of severity of noise problems in the community.
5. Relative significance of noise as a pollutant.

Step 3:

Specifically identify major sources of community noise based upon the review of complaint files and interagency discussion and the following statutory subjects:

1. Highways and freeways.
2. Primary arterials and major local streets.
3. Passenger and freight on-line railroad operations and ground rapid transit systems.
4. Commercial, general aviation, heliport, helistop, and military airport operations, aircraft overflights, jet engine test stands, and all other ground facilities and maintenance functions related to airport operation.
5. Local industrial plants, including, but not limited to, railroad classification yards.
6. Other ground stationary noise sources identified by local agencies as contributing to the community noise environment. (§65302(f))

In addition, the land uses and areas within the community that are noise sensitive should be identified at the same time.

Step 4:

Given the identification of major noise sources and an indication of the community's attitude toward noise pollution (when available), it is advisable to conduct a community noise survey. The purposes of the survey are threefold:

First and foremost, to define by measurement the current noise levels at those sites deemed noise sources and to establish noise level contours around them. The noise contours must be expressed in terms of CNEL or Ldn.

Second, the collected data will form the basis for an analysis of noise exposure from major sources.

Finally, the survey should define the existing ambient noise level throughout the community. Intrusive noises over and above this general predetermined ambient level may then be controlled through implementation of a noise ordinance.

Step 5:

Given the definition of existing ambient noise levels throughout the community, one may proceed with a classification of the community into broad regions of generally consistent land uses and similar noise environments. Because these regions will be varying distances from identified major noise sources, the relative levels of environmental noise will be different from one another. Therefore, subsequent enforcement efforts and mitigating measures may be oriented towards maintaining quiet areas and improving noisy ones.

Step 6:

Directing attention once again to the major noise sources previously identified, it is essential to gather operations and activity data in order to proceed with the analytical noise exposure prediction. This data is somewhat source-specific but generally should consist of the following information and be supplied by the owner/operator of the source:

1. Average daily level of activity (traffic volume, flights per day, hours of operation, etc.).
2. Distribution of activity over day and night time periods, days of the week, and seasonal variations.
3. Average noise level emitted by the source at various levels of activity.
4. Precise source location and proximity to noise-impacted land uses.
5. Composition of noise sources (percentage of trucks on highway, aircraft fleet mix, industrial machinery type, etc.).

Step 7:

In addition to collecting data on the variables affecting noise-source emission for the existing case, future values for these parameters need to be assessed. This is best accomplished by correlating the noise element with other general plan elements (i.e. land use, circulation, housing, etc.) and regional transportation plans and by coordination with other responsible agencies (Airport Land Use Commission, Caltrans, etc.).

Step 8:

Analytical noise exposure modeling techniques may be utilized to develop source-specific noise contours around major noise sources in the community.

"The noise contours shall be prepared on the basis of noise monitoring or following generally accepted noise modeling techniques..." (§65302(f))

Simplified noise prediction methodologies are available through the Department of Health Services for highway and freeway noise, railroad noise, simple fixed stationary and industrial sites, and general aviation aircraft (with less than twenty percent commercial jet aircraft activity—two engine jet only). Noise contours for larger airport facilities and major industrial sites are sufficiently complex that they must be developed via sophisticated computer techniques available through recognized acoustical consulting firms. (Airport contours generally have already been developed in accordance with requirements promulgated by Caltrans' Division of Aeronautics: Noise Standards, Title 21, Section 5000, et seq., California Code of Regulations.)

Although considerable effort may go into developing noise contours that, in some instances, utilize rather sophisticated digital programming techniques, the present state of the art is such that their accuracy is usually no better than +/- 3 dB. In fact, the accuracy of the noise exposure prediction decreases with increasing distance from the noise source. In the near vicinity of the source, prediction accuracy may be within the range of +/- 1 dB, while at greater distances this may deteriorate to +/- 5 dB or more. At greater distances, meteorological and topographic effects, typically not totally accounted for in most models, may have significant influence. Thus, while dealing with the concept of noise contours, it is best not to think of them as absolute lines of demarcation on a map (such as topographical contours), but rather as bands of similar noise exposure.

In addition to assessment of the present-day noise environment, it is recommended that the noise exposure data be projected through the time horizon of the general plan. The noise element should be updated and corrected every five years, or sooner as is necessary, and, at that time, the forecasted noise exposure should be projected an additional five years.

Phase B: Noise-Compatible Land Use Planning

A noise planning policy needs to be rather flexible and dynamic to reflect not only technological advances in noise control, but also economic constraints governing application of noise-control technology and anticipated regional growth and demands of the community. In the final analysis, each community must decide the level of noise exposure its residents are willing to tolerate within a limited range of values below the known levels of health impairment.

Step 9:

Given the definition of the existing and forecasted noise environment provided by the Phase A efforts, the locality preparing the noise element must now approach the problem of defining how much noise is too much. Guidelines for noise-compatible land use are presented in Figure 2. The adjustment factors given in Table 1 may be used in order to arrive at noise-acceptability standards that reflect the noise-control goals of the community, the particular community's sensitivity to noise (as determined in Step 2), and the community's assessment of the relative importance of noise pollution.

Step 10:

As a prerequisite to establishing an effective noise-control program, it is essential to know, in quantitative terms, the extent of noise problems in the community. This is best accomplished by determining, for each major noise source around which noise contours have been developed, the number of community residents exposed and to what extent. It is also useful to identify those noise-sensitive land uses whose noise exposure exceeds the recommended standards given in Figure 2. The exposure inventory can be accomplished by using recent census data, adjusted for regional growth, and tabulating the population census blocks within given noise contours.

Step 11:

Once the noise exposure inventory is completed, the relative significance of specific noise sources in the community (in terms of population affected) will become apparent. The local agencies involved may wish to use this information to orient their noise-control and abatement efforts to achieve the most good. Clearly, control of certain major offending sources will be be-

yond the jurisdiction of local agencies; however, recognition of these limitations should prompt more effective land use planning strategies.

Step 12:

A major objective of the noise element is to utilize this information to ensure noise-compatible land use planning:

"The noise contours shall be used as a guide for establishing a pattern of land uses in the land use element that minimizes the exposure of community residents to excessive noise." (§65302(f))

The intent of such planning is to:

(1) Maintain those areas deemed acceptable in terms of noise exposure.

(2) Use zoning or other land use controls in areas with excessive noise exposure to limit uses to those which are noise compatible and to restrict other, less compatible uses.

Phase C: Noise Mitigation Measures

Step 13:

Based upon the relative importance of noise sources in order of community impact and local attitudes towards these sources, "[t]he noise element shall include implementation measures and possible solutions that address existing and foreseeable noise problems, if any" (§65302(f)).

Selection of these noise-mitigating measures should be coordinated through all local agencies in order to be most effective. Minimization of noise emissions from all local government-controlled or sanctioned activities should be a priority item. This includes low noise specifications for new city or county owned and operated vehicles (and noise reduction retrofitting where economically possible) and noise emission limits on public works projects. Local governments should insure that public buildings (especially schools) are sufficiently insulated to allow their intended function to be uninterrupted by exterior noise. Local agencies can work with state and federal bodies to minimize transportation noise, primarily through transitway design, location, or configuration modifications.

Additional measures might include such policies as limitation of siren usage by police, fire, and ambulance units within populated areas. Animal control units may be encouraged to minimize barking dog complaints through use of an improved public relations campaign termed "Animal Philosophy." This involves working with pet owners to determine why the dog barks and attempting solutions rather than just issuing citations. Local zoning and subdivision ordinances may require the use of noise-reducing building materials or the installation of sound-insulating walls along major roads in new construction and subdivisions.

In general, local noise reduction programs need to address the problems specific to each community, with the ultimate goals being the reduction of complaint frequency and the provision of a healthful noise environment for all residents of the community.

The remaining steps are beyond the scope of the noise element requirements, but pertain to coordination with other state noise-control programs and achievement of the goals set forth in the noise element through development of an active local noise-control effort.

Step 14:

While the noise element identifies problem areas and seeks to develop medium- and long-range solutions to them, a community noise ordinance is the only viable instrument for short-term or immediate solutions to intrusive noise. A model noise ordinance that can be tailored to the specific needs of a given community by simply incorporating those sections deemed most applicable has been developed by the Department of Health Services. The model ordinance also suggests a cure for non-stationary or transient types of noise events, for which noise contours are generally meaningless.

Phase D: Enforcement

To adequately carry out the programs identified in the noise element and to comply with state requirements for certain other noise-control programs, specific enforcement programs are recommended at the local level.

Step 15:

Adopt and apply a community noise ordinance for resolution of noise complaints.

Step 16:

Recent studies have shown that the most objectionable feature of traffic noise is the sound produced by vehicles equipped with illegal or faulty exhaust systems. In addition, such hot rod vehicles are often operated in a manner that causes tire squeal and excessively loud exhaust noise. There are a number of statewide vehicle noise regulations that can be enforced by local authorities as well as the California Highway Patrol. Specifically, Sections 23130, 23130.5, 27150, 27151,

and 38275 of the California Vehicle Code, as well as excessive speed laws, may be applied to curtail this problem. Both the Highway Patrol and the Department of Health Services (through local health departments) are available to aid local authorities in code enforcement and training pursuant to proper vehicle sound-level measurements.

Step 17:

Commercial and public airports operating under a permit from Caltrans' Aeronautics Program are required to comply with both state aeronautics standards governing aircraft noise and all applicable legislation governing the formation and activities of a local Airport Land Use Commission (ALUC). The function of the ALUC is, among other things, to develop a plan for noise-compatible land use in the immediate proximity of the airport. The local general plan must be reviewed for compatibility with this Airport Land Use Plan and amended if necessary (Public Utilities Code §21676). Therefore, the developers of the noise element will need to coordinate their activities with the local ALUC to

FIGURE 2

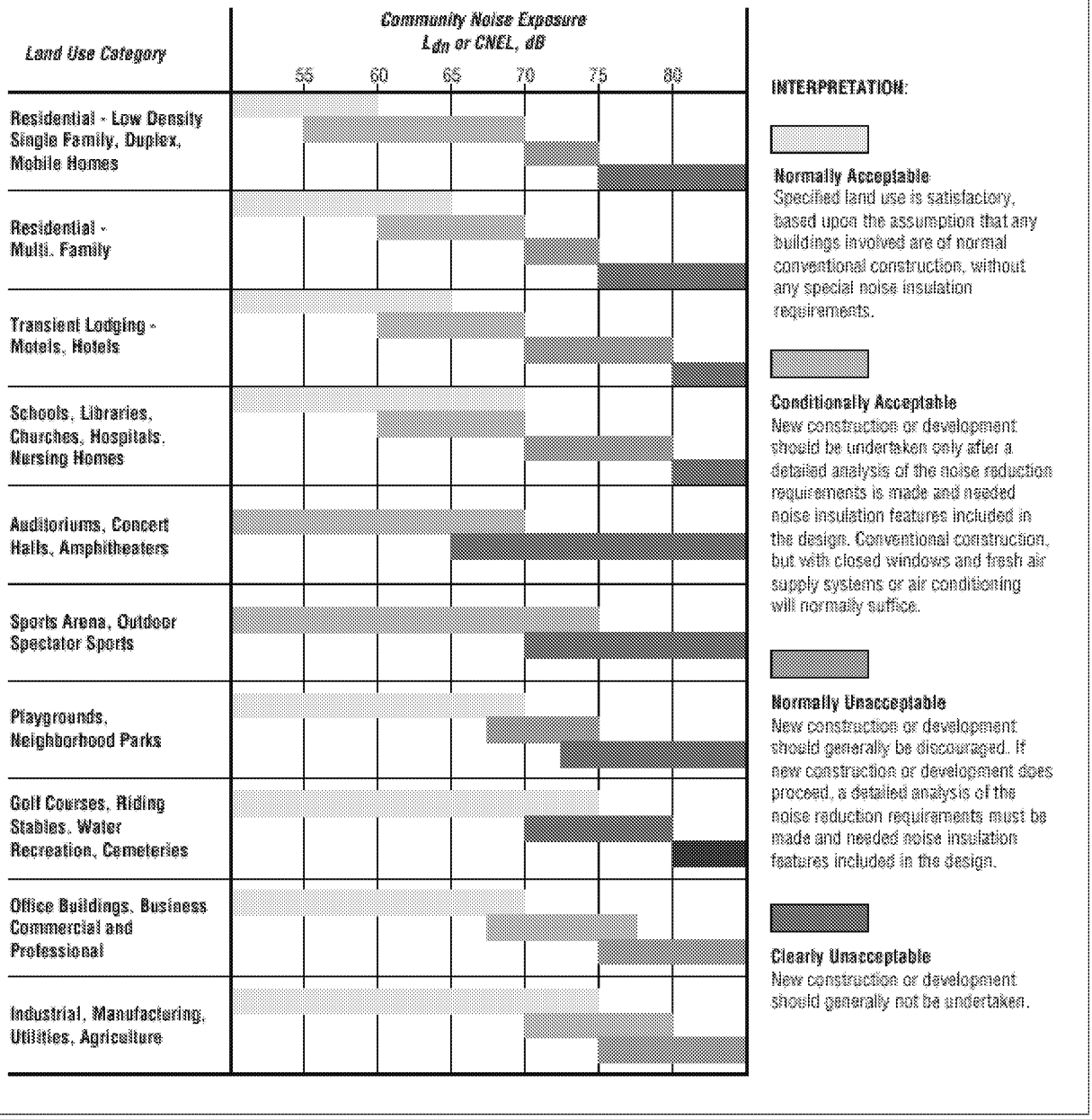


Table 1

Type of Correction	*Description*	*Amount of Correction to be Added to Measured CNEL in dB*
Seasonal Correction	Summer (or year-round operation)	0
	Winter only (or windows always closed)	- 5
Correction for Outdoor Residual Noise Level	Quiet suburban or rural community (remote from large cities and from industrial activity and trucking).	+ 10
	Quiet suburban or rural community (not located near industrial activity).	+ 5
	Urban residential community (not immediately adjacent to heavily traveled roads and industrial areas).	0
	Noisy urban residential community (near relatively busy roads or industrial areas.	- 5
	Very noisy urban residential community.	- 10
Correction for Previous Exposure and Community Attitudes	No prior experience with the intruding noise.	+ 5
	Community has had some previous exposure to intruding but little effort is being made to control the noise. This correction may also be applied in a situation where the community has not been exposed to the noise previously, but the people are aware that bona fide efforts are being made to control the noise.	0
	Community has had considerable previous exposure to the intruding noise and the noise maker's relations with the community are good.	- 5
	Community aware that operation causing noise is very necessary and it will not continue indefinitely. This correction can be applied for an operation of limited duration and under emergency circumstances.	- 10
Pure Tone or Impulse	No pure tone or impulsive character.	0
	Pure Tone or impulsive character present.	+ 5

ensure that compatible standards are utilized throughout the community and that the noise element develops as part of a coherent master plan, of which the ALUP forms an integral component.

Step 18:

"The adopted noise element shall serve as a guideline for compliance with the State's noise insulation standards." (§65302(f))

Recognizing the need to provide acceptable habitation environments, state law requires noise insulation of new multifamily dwellings constructed within the 60 dB (CNEL or Ldn) noise exposure contours. It is a function of the noise element to provide noise contour information around all major sources in support of the sound transmission control standards (Appendix, Chapter 2-35, Part 2, Title 24, California Code of Regulations).

RELATIONSHIP OF THE NOISE ELEMENT TO OTHER GENERAL PLAN ELEMENTS

The noise element is related to the land use, housing, circulation, and open-space elements. Recognition of the interrelationship of noise and these four other mandated elements is necessary in order to prepare an integrated general plan. The relationship between noise and these four elements is briefly discussed below.

- **Land Use**—A key objective of the noise element is to provide noise exposure information for use in the land use element. When integrated with the noise element, the land use element will show acceptable land uses in relation to existing and projected noise contours. Section 65302(f) states that: "The noise contours shall be used as a guide for establishing a pattern of land uses in the land use element that minimizes the exposure of community residents to excessive noise."
- **Housing**—The housing element considers the provision of adequate sites for new housing and standards for housing stock. Since residential land use is among the most noise sensitive, the noise exposure information provided in the noise element must be considered when planning the location of new housing. Also, state law requires special noise insulation of new multifamily dwellings constructed within the 60 dB (CNEL or Ldn) noise exposure contour. This requirement may influence the location and cost of this housing type. In some cases, the noise environment may be a constraint on housing opportunities.
- **Circulation**—The circulation system must be correlated with the land use element and is one of the major sources of noise. Noise exposure will thus be a decisive factor in the location and design of new transportation facilities and the possible mitigation of noise from existing facilities in relation to existing and planned land uses. The local planning agency may wish to review the circulation and land use elements simultaneously to assess their compatibility with the noise element.
- **Open Space**—Excessive noise can adversely affect the enjoyment of recreational pursuits in designated open space. Thus, noise exposure levels should be considered when planning for this kind of open-space use. Conversely, open space can be used to buffer sensitive land uses from noise sources through the use of setbacks and landscaping. Open-space designation can also effectively exclude other land uses from excessively noisy areas.

SELECTION OF THE NOISE METRIC

The community noise metrics to be used in noise elements are either CNEL or Ldn (as specified in §65302(f)). A significant factor in the selection of these scales was compatibility with existing quantifications of noise exposure currently in use in California. CNEL is the noise metric currently specified in the State Aeronautics Code for evaluation of noise impacts at specific airports that have been declared to have a noise problem. Local compliance with state airport noise standards necessitates that community noise be specified in CNEL. The Ldn represents a logical simplification of CNEL. It divides the day into two weighted time periods (Day—7 a.m. to 10 p.m. and Night—10 p.m. to 7 a.m.) rather than the three used in the CNEL measure (Day—7 a.m. to 7 p.m., Evening—7 p.m. to 10 p.m., and Night—10 p.m. to 7 a.m.) with no significant loss in accuracy.

CRITERIA FOR NOISE-COMPATIBLE LAND USE

Figure 2 summarizes the suggested use of the CNEL/Ldn metrics for evaluating land use noise compatibility. Such criteria require a rather broad interpretation, as illustrated by the ranges of acceptability for a given land use within a defined range of noise exposures.

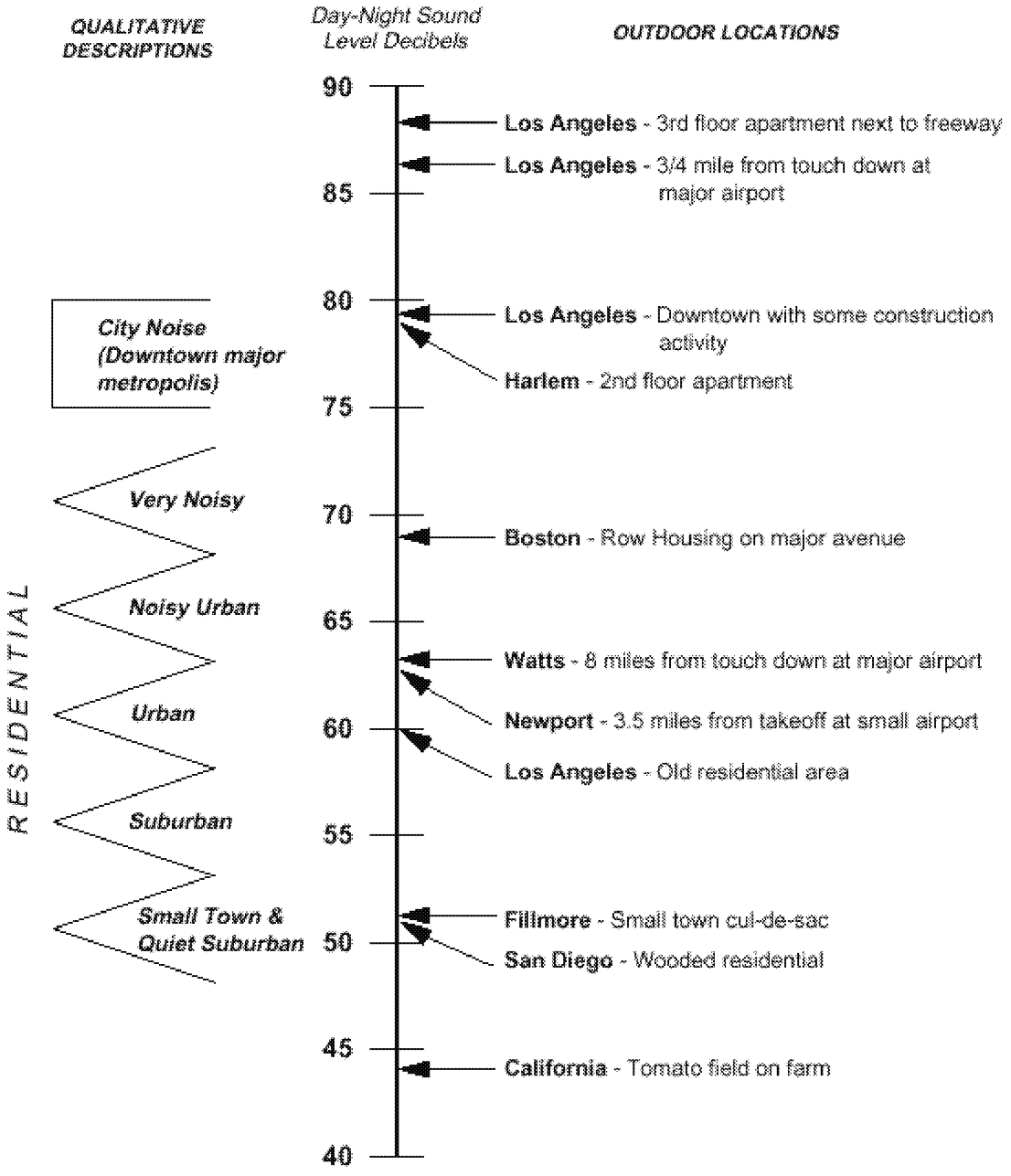
Denotation of a land use as "normally acceptable" on Figure 2 implies that the highest noise level in that band is the maximum desirable for existing or conventional construction that does not incorporate any special acoustic treatment. In general, evaluation of land use that falls into the "normally acceptable" or "normally unacceptable" noise environments should include consideration of the type of noise source, the sensitivity of the noise receptor, the noise reduction likely to be provided by structures, and the degree to which the noise source may interfere with speech, sleep, or other activities characteristic of the land use.

Figure 2 also provides an interpretation as to the suitability of various types of construction with respect to the range of outdoor noise exposure.

The objective of the noise compatibility guidelines in Figure 2 is to provide the community with a means of judging the noise environment it deems to be generally acceptable. Many efforts have been made to account for the variability in perceptions of environmental noise that exist between communities and within a given community.

Beyond the basic CNEL or Ldn quantification of noise exposure, one can apply correction factors to the measured or calculated values of these metrics in order to account for some of the factors that may cause

Figure 3



the noise to be more or less acceptable than the mean response. Significant among these factors are seasonal variations in noise source levels, existing outdoor ambient levels (i.e., relative intrusiveness of the source), general societal attitudes towards the noise source, prior history of the source, and tonal characteristics of the source. When it is possible to evaluate some or all of these factors, the measured or computed noise exposure values may be adjusted by means of the correction factors listed in Table 1 in order to more accurately assess local sentiments towards acceptable noise exposure.

In developing these acceptability recommendations, efforts were made to maintain consistency with the goals defined in the federal EPA's "Levels Document" and the State Sound Transmission Control Standards

for multifamily housing. In both of these documents, an interior noise exposure of 45 dB CNEL (or Ldn) is recommended to permit normal residential activity. If one considers the typical range of noise reduction provided by residential dwellings (12 to 18 dB with windows partially open), the 60 dB outdoor value identified as "clearly acceptable" for residential land use would provide the recommended interior environment.

Figure 3 has been included in order to better explain the qualitative nature of community noise environments expressed in terms of Ldn. It is apparent that noise environments cover a broad range and that, in general, it may be observed that the quality of the environment improves as one moves further away from major transportation noise sources.

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APPENDIX 3.3:

CITY OF MORENO VALLEY NOISE ORDINANCE

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9.10.140 Noise and sound.

Unless otherwise specified in Chapter 9.08, General Development Standards, or Chapter 9.09, Specific Use Development Standards, all commercial and industrial uses shall be operated so that noise created by any loudspeaker, bells, gongs, buzzers, or other noise attention or attracting devices shall not exceed fifty-five (55) dBA at any one time beyond the boundaries of the property. (Ord. 359 (part), 1992)

Chapter 11.80 NOISE REGULATION

11.80.010 Legislative findings.

It is found and declared that:

A. Excessive sound within the limits of the city is a condition which has existed for some time, and the amount and intensity of such sound is increasing.

B. Such excessive sound is a detriment to the public health, safety, and welfare and quality of life of the residents of the city.

C. The necessity in the public interest for the provisions and prohibitions hereinafter contained and enacted is declared as a matter of legislative determination and public policy, and it is further declared that the provisions and prohibitions hereinafter contained and enacted are in pursuance of and for the purpose of securing and promoting the public health, safety, welfare and quality of life of the city and its inhabitants. (Ord. 740 § 1.2, 2007)

11.80.020 Definitions.

For purposes of this chapter, certain words and phrases used herein are defined as follows:

"A-weighted sound level" means the sound pressure level in decibels as measured with a sound level meter using the A-weighting network. The unit of measurement is the dB(A).

"Commercial" means all uses of land not otherwise classified as residential, as defined in this section.

"Construction" means any site preparation, and/or any assembly, erection, repair, or alteration, excluding demolition, of any structure, or improvements to real property.

"Continuous airborne sound" means sound that is measured by the slow-response setting of a meter manufactured to the specifications of ANSI Section 1.4-1983 (R2006) "Specification for Sound Level Meters," or its successor.

"Daytime" means eight a.m. to ten p.m. the same day.

"Decibel" (dB) means a unit for measuring the amplitude of sound, equal to twenty (20) times the logarithm to the base ten (10) of the ratio of the pressure of the sound measured to the reference pressure, which is twenty (20) micropascals (twenty (20) micronewtons per square meter.)

"Demolition" means any dismantling, intentional destruction or removal of structures or other improvements to real property.

"Disturb" means to interrupt, interfere with, or hinder the enjoyment of peace or quiet or the normal listening activities or the sleep, rest or mental concentration of the hearer.

"Emergency" means any occurrence or set of circumstances involving actual or imminent physical trauma or significant property damage which necessitates immediate action. Economic loss alone shall not constitute an emergency. It shall be the burden of an alleged violator to prove an "emergency."

"Emergency work" means any work made necessary to restore property to a safe condition following an emergency, or to protect persons or property threatened by an imminent emergency, to the extent such work is, in fact, necessary to protect persons or property from exposure to imminent danger or damage.

"Frequency" means the number of complete oscillation cycles per unit of time.

"Impulsive sound" means sound of short duration, usually less than one second, with an abrupt onset and rapid decay. Examples of sources of impulsive sound include explosions, drop forge impacts, and discharge of firearms.

"Nighttime" means 10:01 p.m. to 7:59 a.m. the following day.

"Noise disturbance" means any sound which:

1. Disturbs a reasonable person of normal sensitivities;

2. Exceeds the sound level limits set forth in this chapter; or

3. Is plainly audible as defined in this section. Where no specific distance is set forth for the determination of audibility, references to noise disturbance shall be deemed to mean plainly audible at a distance of two hundred (200) feet from the real property line of the source of the sound, if the sound occurs on privately owned property, or from the source of the sound, if the sound occurs on public right of way, public space or other publicly owned property.

"Person" means any person, person's firm, association, copartnership, joint venture, corporation, or any entity public or private in nature.

"Plainly audible" means that the sound or noise produced or reproduced by any particular source, can be clearly distinguished from ambient noise by a person using his/her normal hearing faculties.

"Public right-of-way" means any street, avenue, boulevard, sidewalk, bike path or alley, or similar place normally accessible to the public which is owned or controlled by a governmental entity.

"Public space" means any park, recreational or community facility, or lot which contains at least one building that is open to the general public during its hours of operation.

"Residential" means all uses of land primarily for dwelling units, as well as hospitals, schools, colleges and universities, and places of religious assembly.

"Sound" means an oscillation in pressure, particle displacement, particle velocity or other physical parameter, in a medium with internal forces that causes compression and rarefaction of that medium capable of producing an auditory impression. The description of sound may include any characteristic of such sound, including duration, intensity and frequency.

"Sound level" means the weighted sound pressure level as measured in dB(A) by a sound level meter and as specified in American National Standards Institute (ANSI) specifications for sound-level meters (ANSI Section 1.4-1971 (R1976)). If the frequency weighting employed is not indicated, the A-weighting shall apply.

"Sound level meter" means an instrument, demonstrably capable of accurately measuring sound levels as defined above.

All technical definitions not defined above shall be in accordance with applicable publications and standards of the American National Standards Institute (ANSI). (Ord. 740 § 1.2, 2007)

11.80.030 Prohibited acts.

A. General Prohibition. It is unlawful and a violation of this chapter to maintain, make, cause, or allow the making of any sound that causes a noise disturbance, as defined in Section 11.80.020.

B. Sound causing permanent hearing loss.

1. Sound level limits. Based on statistics from the Center for Disease Control and Prevention and the National Institute for Occupational Safety and Health, Table 1 and Table 1-A specify sound level limits which, if exceeded, will have a high probability of producing permanent hearing loss in anyone in the area where the

sound levels are being exceeded. No sound shall be permitted within the city which exceeds the parameters set forth in Tables 11.80.030-1 and 11.80.030-1-A of this chapter:

Table 11.80.030-1

MAXIMUM CONTINUOUS SOUND LEVELS*

Duration per Day Continuous Hours	Sound level [db(A)]
8	90
6	92
4	95
3	97
2	100
1.5	102
1	105
0.5	110
0.25	115

* When the daily sound exposure is composed of two or more periods of sound exposure at different levels, the combined effect of all such periods shall constitute a violation of this section if the sum of the percent of allowed period of sound exposure at each level exceeds 100 percent

Table 11.80.030-1A

MAXIMUM IMPULSIVE SOUND LEVELS

Number of Repetitions per 24-Hour Period	Sound level [dB (A)]
1	145
10	135
100	125

2. Exemptions. No violation shall exist if the only persons exposed to sound levels in excess of those listed in Tables 11.80.030-1 and 11.80.030-1A are exposed as a result of:

a. Trespass;

b. Invitation upon private property by the person causing or permitting the sound; or

c. Employment by the person or a contractor of the person causing or permitting the sound.

C. Nonimpulsive Sound Decibel Limits. No person shall maintain, create, operate or cause to be operated on private property any source of sound in such a manner as to create any nonimplusive sound which exceeds the limits set forth for the source land use category (as defined in Section 11.80.020) in Table 11.80.030-2 when measured at a distance of two hundred (200) feet or more from the real property line of the source of the sound, if the sound occurs on privately owned property, or from the source of the sound, if the sound occurs on public right-of-way, public space or other publicly owned property. Any source of sound in violation of this subsection shall be deemed prima facie to be a noise disturbance.

Table 11.80.030-2

MAXIMUM SOUND LEVELS (IN dB(A)) FOR SOURCE LAND USES

Residential		Commercial	
Daytime	Nighttime	Daytime	Nighttime
60	55	65	60

D. Specific Prohibitions. In addition to the general prohibitions set out in subsection A of this section, and unless otherwise exempted by this chapter, the following specific acts, or the causing or permitting thereof, are regulated as follows:

1. Motor Vehicles. No person shall operate or cause to be operated a public or private motor vehicle, or combination of vehicles towed by a motor vehicle, that creates a sound exceeding the sound level limits in Table 11.80.030-2 when the vehicle(s) are not otherwise subject to noise regulations provided for by the California Vehicle Code.

2. Radios, Televisions, Electronic Audio Equipment, Musical Instruments or Similar Devices from a Stationary Source. No person shall operate, play or permit the operation or playing of any radio, tape player, television, electronic audio equipment, musical instrument, sound amplifier or other mechanical or electronic sound making device that produces, reproduces or amplifies sound in such a manner as to create a noise disturbance. However, this subsection shall not apply to any use or activity exempted in subsection E of this section and any use or activity for which a special permit has been issued pursuant to Section 11.80.040.

3. Radios, Electronic Audio Equipment, or Similar Devices from a Mobile Source Such as a Motor Vehicle. Sound amplification or reproduction equipment on or in a motor vehicle is subject to regulation in accordance with the California Vehicle Code when upon the public right-of-way. When upon public space or publicly owned property other than the public right-of-way or upon private property open to the public, sound amplification or reproduction equipment shall not be operated in such a manner that it is plainly audible at a distance of fifty (50) feet in any direction from the vehicle.

4. Portable, Hand-Held Music or Sound Amplification or Reproduction Equipment. Such equipment shall not be operated on a public right-of-way, public space or other publicly owned property in such a manner as to be plainly audible at a distance of fifty (50) feet in any direction from the operator.

5. Loudspeakers and Public Address Systems.

a. Except as permitted by Section 11.80.040, no person shall operate, or permit the operation of, any loudspeaker, public address system or similar device, for any commercial purpose:

1. Which produces, reproduces or amplifies sound in such a manner as to create a noise disturbance; or

2. During nighttime hours on a public right-of-way, public space or other publicly owned property.

b. No person shall operate, or permit the operation of, any loudspeaker, public address system or similar device, for any noncommercial purpose, during nighttime hours in such a manner as to create a noise disturbance.

6. Animals. No person shall own, possess or harbor an animal or bird that howls, barks, meows, squawks, or makes other sounds that:

a. Create a noise disturbance;

b. Are of frequent or continued duration for ten (10) or more consecutive minutes and are plainly audible at a distance of fifty (50) feet from the real property line of the source of the sound; or

c. Are intermittent for a period of thirty (30) or more minutes and are plainly audible at a distance of fifty (50) feet from the real property line of the source of the sound.

7. Construction and Demolition. No person shall operate or cause the operation of any tools or equipment used in construction, drilling, repair, alteration or demolition work between the hours of eight p.m. and seven a.m. the following day such that the sound there from creates a noise disturbance, except for emergency work by public service utilities or for other work approved by the city manager or designee. This section shall not apply to the use of power tools as provided in subsection (D)(9) of this section.

8. Emergency Signaling Devices. No person shall intentionally sound or permit the sounding outdoors of any fire, burglar or civil defense alarm, siren or whistle, or similar stationary emergency signaling device, except for emergency purposes or for testing as follows:

a. Testing of a stationary emergency signaling device shall not occur between seven p.m. and seven a.m. the following day;

b. Testing of a stationary emergency signaling device shall use only the minimum cycle test time, in no case to exceed sixty (60) seconds;

c. Testing of a complete emergency signaling system, including the functioning of the signaling device and the personnel response to the signaling device, shall not occur more than once in each calendar month. Such testing shall only occur only on weekdays between seven a.m. and seven p.m. and shall be exempt from the time limit specified in subsection (D)(8)(2) of this section.

9. Power Tools. No person shall operate or permit the operation of any mechanically, electrically or gasoline motor-driven tool during nighttime hours so as to cause a noise disturbance across a residential real property boundary.

10. Pumps, Air Conditioners, Air-Handling Equipment and Other Continuously Operating Equipment. Notwithstanding the general prohibitions of subsection a of this section, no person shall operate or permit the operation of any pump, air conditioning, air-handling or other continuously operating motorized equipment in a state of disrepair or in a manner which otherwise creates a noise disturbance distinguishable from normal operating sounds.

E. Exemptions. The following uses and activities shall be exempt from the sound level regulations except the maximum sound levels provided in Tables 11.80.030-1 and 11.80.030-1A:

1. Sounds resulting from any authorized emergency vehicle when responding to an emergency call or acting in time of an emergency.

2. Sounds resulting from emergency work as defined in Section 11.80.020

3. Any aircraft operated in conformity with, or pursuant to, federal law, federal air regulations and air traffic control instruction used pursuant to and within the duly adopted federal air regulations; and any aircraft operating under technical difficulties in any kind of distress, under emergency orders of air traffic control, or being operated pursuant to and subsequent to the declaration of an emergency under federal air regulations.

4. All sounds coming from the normal operations of interstate motor and rail carriers, to the extent that local regulation of sound levels of such vehicles has been preempted by the Noise Control Act of 1972 (42 U.S.C. § 4901 et seq.) or other applicable federal laws or regulations

5. Sounds from the operation of motor vehicles, to the extent they are regulated by the California Vehicle Code.

6. Any constitutionally protected noncommercial speech or expression conducted within or upon a any public right-of-way, public space or other publicly owned property constituting an open or a designated public forum in compliance with any applicable reasonable time, place and manner restrictions on such speech or expression or otherwise pursuant to legal authority.

7. Sounds produced at otherwise lawful and permitted city-sponsored events, organized sporting events, school assemblies, school playground activities, by permitted fireworks, and by permitted parades on public right-of-way, public space or other publicly owned property.

8. An event for which a temporary use permit or special event permit has been issued under other provisions of this code, where the provisions of Section 11.80.040 are met, the permit granted expressly grants an exemption from specific standards contained in this chapter, and the permittee and all persons under the permittee's reasonable control actually comply with all conditions of such permit. Violation of any condition of such a permit related to sound or sound equipment shall be a violation of this chapter and punishable as such.

F. Nothing in this chapter shall be construed to limit, modify or repeal any other regulation elsewhere in this code relating to the regulation of noise sources, nor shall any such other regulation be read to permit the emission of noise in violation of any provision of this chapter. (Ord. 740 § 1.2, 2007)

11.80.040 Special provisions for temporary use and special event permits.

The exemption by permit set forth in Section 11.80.030(E)(8) shall be subject to the following requirements and conditions:

A. The permit application shall include the name, address and telephone number of the permit applicant; the date, hours and location for which the permit is requested; and the nature of the event or activity. It shall also specify the types of sounds and/or sound equipment to be permitted, the proposed duration of such sound, the specific standards from which the sound is to be exempted, and the reasons for each requested exemption.

B. The permit shall be issued provided the proposed activity meets the requirements of this section and the issuing official determines that the sound to be emitted at the event as proposed would not be detrimental to the public health, safety or welfare, that the event cannot reasonably achieve its legitimate aims and purposes without the exemption and that the sound levels proposed will not unreasonably damage the peace and quiet enjoyment of the lawful users of surrounding properties, nor constitute a public nuisance.

C. The official issuing the permit may prescribe any reasonable conditions or requirements he/she deems necessary to minimize noise disturbances upon the community or the surrounding neighborhood, and/or to protect the health, safety or welfare of the public, including participants in the permitted event, including use of mufflers, screens or other sound-attenuating devices.

D. Any permit granted must be in writing and shall contain all conditions upon which the permit shall be effective.

E. No more than six events requiring a sound limit exemption may be held at any particular location upon privately owned or controlled property per calendar year, provided further that the number of events shall not exceed the number permitted under the regulations for the type of permit issued. For purposes of this subsection, "location" means a legal parcel of real property or a complete shopping or commercial center or mall sharing common parking and access even if comprised of multiple legal parcels.

F. The exemption from sound limits under such permit shall not exceed maximum period of four hours in one twenty-four (24) hour day.

G. The permit will only be granted for hours between nine a.m. and ten p.m. on all days other than Friday and Saturday; and, on Friday and Saturday, between the hours of nine a.m. and one a.m. of the following day, except in the following circumstances:

1. A permit may be granted for hours between nine a.m. on New Year's Eve and one a.m. the following day (New Year's Day).

2. A permit may be granted for hours between nine a.m. and two a.m. the following day if there are no residences, hospitals, or nursing homes within a 0.5 mile radius of the property where the function is taking

place.

H. Functions for which the permits are issued shall be limited to a continuous airborne sound level not to exceed seventy (70) dB(A), as measured two hundred (200) feet from the real property boundary of the source property if on private property, or from the source if on public right of way, public space or other publicly owned property. (Ord. 740 § 1.2, 2007)

11.80.050 Measurement or assessment of sound.

A. Measurement With Sound Meter.

1. The measurement of sound shall be made with a sound level meter meeting the standards prescribed by ANSI Section 1.4-1983 (R2006). The instruments shall be maintained in calibration and good working order. A calibration check shall be made of the system at the time of any sound level measurement. Measurements recorded shall be taken so as to provide a proper representation of the source of the sound. The microphone during measurement shall be positioned so as not to create any unnatural enhancement or diminution of the measured sound. A windscreen for the microphone shall be used at all times. However, a violation of this chapter may occur without the occasion of the measurements being made as otherwise provided.

2. The slow meter response of the sound level meter shall be used in order to best determine the average amplitude.

3. The measurement shall be made at any point on the property into which the sound is being transmitted and shall be made at least three feet away from any ground, wall, floor, ceiling, roof and other plane surface.

4. In case of multiple occupancy of a property, the measurement may be made at any point inside the premises to which any complainant has right of legal private occupancy; provided that the measurement shall not be made within three feet of any ground, wall, floor, ceiling, roof or other plane surface.

5. All measurements of sound provided for in this chapter will be made by qualified officials of the city who are designated by the city manger or designee to operate the apparatus used to make the measurements.

B. Assessment Without Sound Level Meter. Any police officer, code enforcement officer, or other official designated by the city manager or designee who hears a noise or sound that is plainly audible, as defined in Section 11.80.020, in violation of this chapter, may enforce this chapter and shall assess the noise or sound according to the following standards:

1. The primary means of detection shall be by means of the official's normal hearing faculties, not artificially enhanced.

2. The official shall first attempt to have a direct line of sight and hearing to the vehicle or real property from which the sound or noise emanates so that the official can readily identify the offending source of the sound or noise and the distance involved. If the official is unable to have a direct line of sight and hearing to the vehicle or real property from which the sound or noise emanates, then the official shall confirm the source of the sound or noise by approaching the suspected vehicle or real property until the official is able to obtain a direct line of sight and hearing, and confirm the source of the sound or noise that was heard at the place of the original assessment of the sound or noise.

3. The official need not be required to identify song titles, artists, or lyrics in order to establish a violation. (Ord. 740 § 1.2, 2007)

11.80.060 Violation.

A. Violation of Sound Level Limits. Any person violating any of the provisions of this chapter shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punishable by a fine not to exceed one

thousand dollars ($1,000.00) and/or six months in the county jail, or both. Notwithstanding the forgoing, any violation of the provisions of this chapter may, in the discretion of the citing officer or the city attorney, be cited and/or prosecuted as an infraction. Any person found guilty of an infraction hereunder shall be punished by a fine of not less than fifty dollars ($50.00) nor more than one hundred dollars ($100.00) for the first offense; a fine of not less than one hundred dollars ($100.00), nor more than two hundred dollars ($200.00) for the second offense. Any third or subsequent offense shall constitute a misdemeanor. Violations of this chapter may also be subject to civil citation pursuant to Chapter 1.10.

B. Joint and Several Responsibility. In addition to the person causing the offending sound, the owner, tenant or lessee of property, or a manager, overseer or agent, or any other person lawfully entitled to possess the property from which the offending sound is emitted at the time the offending sound is emitted, shall be responsible for compliance with this chapter if the additionally responsible party knows or should have known of the offending noise disturbance. It shall not be a lawful defense to assert that some other person caused the sound. The lawful possessor or operator of the premises shall be responsible for operating or maintaining the premises in compliance with this chapter and may be cited regardless of whether or not the person actually causing the sound is also cited.

C. Violation May Be Declared a Public Nuisance. The operation or maintenance of any device, equipment, instrument, vehicle or machinery in violation of any provisions of this chapter which endangers the public health, safety and quality of life of residents in the area is declared to be a public nuisance, and may be subject to abatement summarily or by a restraining order or injunction issued by a court of competent jurisdiction. (Ord. 740 § 1.2, 2007)

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APPENDIX 5.1:

STUDY AREA PHOTOS

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IMG_0650.JPG
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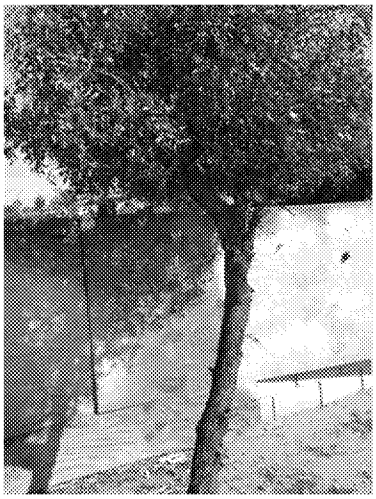

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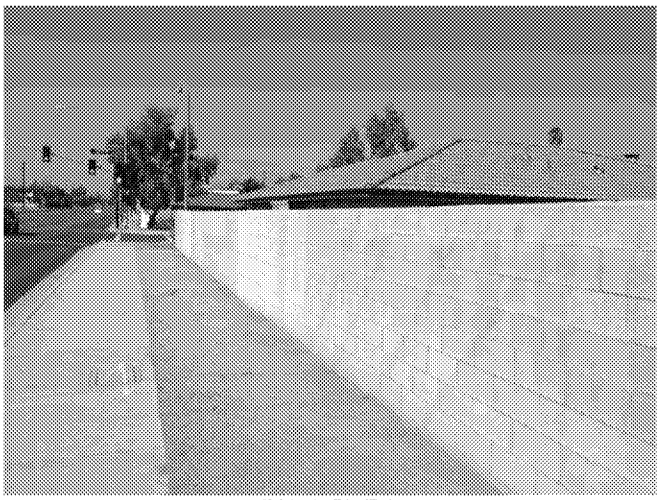

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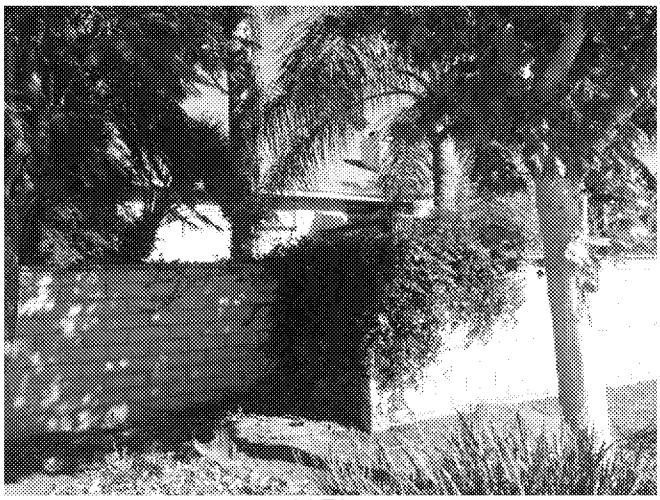

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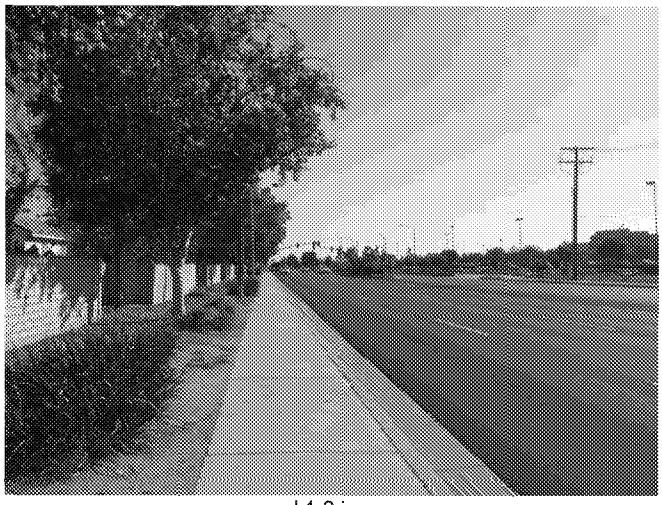
L1-N.jpg



L1-S.jpg

L1-W.jpg

L2-E.jpg

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L5-E.jpg

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APPENDIX 5.2:

NOISE LEVEL MEASUREMENT WORKSHEETS

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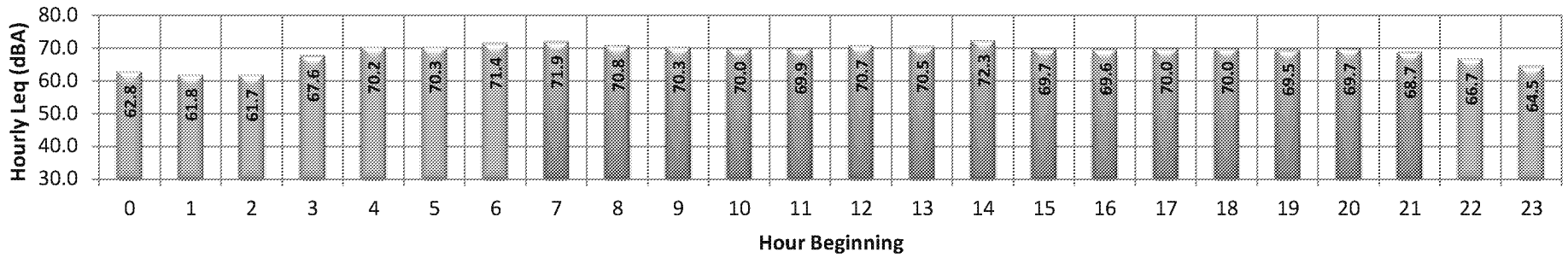
24-Hour Noise Level Measurement Summary

Project Name: Moreno Valley Walmart Noise Impact Analysis *Job Number:* 8870

Location: L1 - Located east of the Project site in front of the backyard wall of homes located on Ninya Avenue. *Analyst:* Bill Lawson

Date: 10/2/2013

Hourly Leq dBA Readings (unadjusted)



Time Period	*Energy Average (Leq)*	*Average (Leq)*	*Minimum (Leq)*	*Maximum (Leq)*	*CNEL*
Daytime Hourly (7am-10pm):	70.3	70.2	68.7	72.3	
Nighttime Hourly (10pm-7am):	67.7	66.3	61.7	71.4	
24-Hour:	69.5	68.8	61.7	72.3	74.9

Hourly Summary

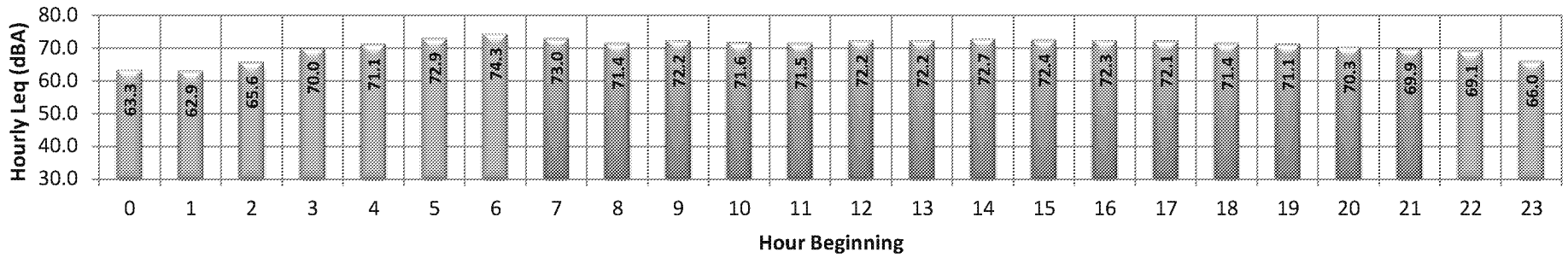
Time Period	Hour	Leq	Lmax	Lmin	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
	0	62.8	82.9	41.2	74.5	72.5	69.0	66.5	57.0	48.0	43.5	43.0	42.0
	1	61.8	83.2	38.3	74.0	72.0	68.0	65.5	56.0	45.5	39.5	39.0	39.0
	2	61.7	77.7	37.3	73.5	72.0	69.0	66.5	57.5	45.5	39.0	39.0	38.0
Night	3	67.6	87.0	39.0	78.0	76.5	74.5	72.5	66.0	59.0	42.5	40.5	39.0
	4	70.2	95.7	42.6	79.0	77.5	75.5	74.5	69.0	63.0	49.5	46.5	44.5
	5	70.3	86.9	41.8	80.0	78.5	76.5	75.0	70.0	64.0	51.0	48.0	44.5
	6	71.4	87.3	42.7	79.5	78.5	77.5	76.5	72.0	66.5	54.5	49.5	45.0
	7	71.9	85.0	44.5	80.0	79.0	77.5	76.5	72.5	68.0	56.0	53.0	48.5
	8	70.8	88.3	43.2	80.0	78.5	76.5	75.0	71.0	66.5	55.0	51.5	47.0
	9	70.3	84.2	45.2	79.5	78.0	75.5	74.5	71.0	66.5	54.0	51.0	47.0
	10	70.0	84.2	44.9	78.5	77.5	75.5	74.5	70.5	66.5	53.5	51.0	46.5
	11	69.9	85.6	45.5	79.0	77.5	75.0	74.0	70.5	66.0	54.5	51.0	48.0
	12	70.7	86.5	45.1	79.5	78.0	76.0	75.0	71.0	66.5	56.0	52.5	47.5
	13	70.5	90.5	45.2	79.0	77.5	76.0	75.0	71.0	66.5	54.5	51.0	47.5
Day	14	72.3	98.8	44.9	79.5	77.5	75.0	74.0	70.5	65.5	55.0	52.5	48.5
	15	69.7	88.2	44.7	78.0	76.5	75.0	74.0	70.5	66.0	56.5	54.0	49.5
	16	69.6	83.4	45.9	77.5	76.5	75.0	74.0	70.5	66.0	56.5	54.5	51.0
	17	70.0	84.3	49.4	77.5	76.5	75.0	74.5	71.0	67.0	57.5	55.0	52.5
	18	70.0	87.3	45.1	79.0	77.5	75.5	74.5	70.5	66.0	55.5	53.0	49.5
	19	69.5	89.9	46.1	78.0	76.5	74.5	73.5	69.5	64.5	53.0	50.5	47.5
	20	69.7	95.6	45.4	77.5	76.5	74.5	73.0	69.0	64.0	53.0	51.0	48.0
	21	68.7	93.8	44.0	78.0	76.0	74.5	73.0	67.5	62.5	49.5	47.0	45.5
Night	22	66.7	81.5	41.3	77.0	75.5	73.5	72.0	65.5	58.5	45.0	44.0	43.0
	23	64.5	84.2	37.3	75.5	74.0	71.0	69.5	62.0	51.0	41.0	40.0	39.0

URBAN CROSSROADS

24-Hour Noise Level Measurement Summary

Project Name: Moreno Valley Walmart Noise Impact Analysis
Job Number: 8870
Location: L2 - Located east of the Project site in front of the backyard wall of homes located on Wendy Way.
Analyst: Bill Lawson
Date: 10/4/2013

Hourly Leq dBA Readings (unadjusted)



Time Period	Energy Average (Leq)	Average (Leq)	Minimum (Leq)	Maximum (Leq)	CNEL
Daytime Hourly (7am-10pm):	71.8	71.8	69.9	73.0	
Nighttime Hourly (10pm-7am):	70.0	68.4	62.9	74.3	
24-Hour:	71.2	70.5	62.9	74.3	77.0

Hourly Summary

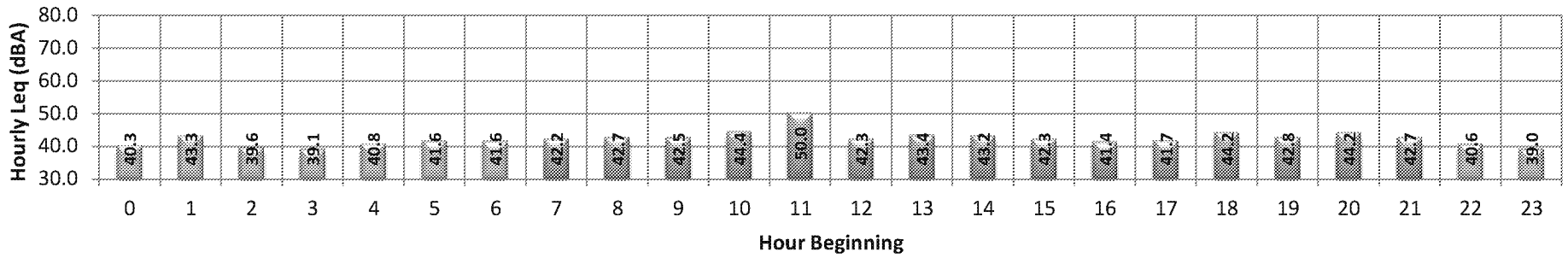
Time Period	Hour	Leq	Lmax	Lmin	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
	0	63.3	87.7	39.6	76.0	74.0	69.0	65.5	53.5	46.0	41.0	40.5	40.5
	1	62.9	83.3	40.6	76.0	74.0	68.5	66.0	54.5	46.0	42.0	41.5	40.5
	2	65.6	82.8	40.7	77.5	76.0	72.5	70.0	61.5	51.5	43.5	42.5	41.0
Night	3	70.0	89.4	42.6	80.5	78.5	76.5	75.0	67.5	60.5	48.0	46.0	44.5
	4	71.1	89.8	48.9	81.5	80.0	77.5	76.0	70.0	63.5	53.0	51.5	50.0
	5	72.9	91.0	50.1	83.0	81.5	78.5	77.0	72.5	66.5	54.5	53.0	51.5
	6	74.3	89.7	51.4	83.0	82.0	80.0	79.0	74.8	69.5	58.5	56.5	53.5
	7	73.0	87.6	48.6	81.0	80.0	78.5	77.5	73.5	69.0	59.0	56.0	51.0
	8	71.4	87.2	43.8	80.0	79.0	77.0	76.0	72.0	67.0	53.5	50.0	46.0
	9	72.2	90.4	46.0	81.5	80.0	77.5	76.5	72.5	67.5	55.0	52.5	49.0
	10	71.6	85.8	41.7	80.5	79.5	77.5	76.0	72.0	67.0	55.5	52.0	47.5
	11	71.5	86.8	41.6	80.5	79.0	77.0	76.0	72.0	67.5	55.0	51.0	45.0
	12	72.2	90.7	40.7	81.0	79.5	77.5	76.5	72.5	67.5	54.0	50.0	44.0
	13	72.2	90.9	44.1	80.5	79.5	78.0	77.0	73.0	68.0	54.5	51.0	47.0
Day	14	72.7	91.6	43.0	81.5	80.0	78.0	77.0	73.5	68.5	56.5	53.5	49.5
	15	72.4	91.0	44.7	80.5	79.5	78.0	76.5	73.0	68.5	57.0	53.0	48.5
	16	72.3	89.8	47.2	80.5	79.5	78.0	76.5	73.0	68.5	57.0	54.0	50.5
	17	72.1	86.5	47.7	80.5	79.5	77.5	76.5	73.0	68.5	58.5	56.5	51.5
	18	71.4	87.6	47.0	80.0	78.5	77.0	76.0	72.5	67.0	54.5	52.0	48.5
	19	71.1	94.7	45.5	79.5	78.5	76.5	75.5	70.5	65.5	54.5	51.5	47.0
	20	70.3	89.3	44.3	80.0	78.5	76.5	75.0	70.0	64.5	52.0	49.5	46.5
	21	69.9	89.1	41.2	80.0	78.5	76.0	74.5	68.5	62.0	49.5	47.0	43.0
Night	22	69.1	97.1	39.5	78.0	76.5	74.5	73.0	66.0	59.5	47.0	44.5	42.0
	23	66.0	85.8	39.3	77.5	75.5	73.0	71.0	63.5	55.0	45.0	43.5	41.0

URBAN CROSSROADS

24-Hour Noise Level Measurement Summary

Project Name: Moreno Valley Walmart Noise Impact Analysis
Job Number: 8870
Location: L3 - Located north of the Project site in front of the backyard wall of homes located on Fay Avenue.
Analyst: Bill Lawson
Date: 10/2/2013

Hourly Leq dBA Readings (unadjusted)



Time Period	*Energy Average (Leq)*	*Average (Leq)*	*Minimum (Leq)*	*Maximum (Leq)*	*CNEL*
Daytime Hourly (7am-10pm):	44.0	43.3	41.4	50.0	
Nighttime Hourly (10pm-7am):	40.9	40.7	39.0	43.3	
24-Hour:	43.1	42.3	39.0	50.0	48.3

Hourly Summary

Time Period	Hour	Leq	Lmax	Lmin	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Night	0	40.3	58.7	37.7	45.0	44.5	43.0	42.5	40.0	39.5	37.5	37.5	37.5
	1	43.3	51.3	39.0	49.0	48.0	46.0	45.5	43.5	42.5	39.5	39.5	39.5
	2	39.6	48.0	37.8	43.0	42.5	41.5	41.0	39.5	39.5	37.5	37.5	37.5
	3	39.1	48.7	37.8	42.5	41.5	40.0	39.5	39.5	38.5	37.5	37.5	37.5
	4	40.8	50.4	37.8	46.5	45.5	44.0	42.5	40.5	39.5	38.0	37.5	37.5
	5	41.6	58.0	37.8	46.5	45.5	43.5	42.5	41.5	40.5	39.5	39.5	39.0
	6	41.6	52.5	37.8	47.5	46.0	44.0	43.5	41.5	40.5	39.5	39.0	37.5
Day	7	42.2	50.7	39.4	47.0	45.5	44.0	43.5	42.5	41.5	40.5	40.5	39.5
	8	42.7	65.4	39.5	48.5	46.0	44.0	43.5	42.0	41.0	40.0	39.5	39.5
	9	42.5	52.4	40.2	46.5	45.5	44.0	43.5	42.5	42.0	40.5	40.5	40.5
	10	44.4	50.4	42.1	47.0	46.0	45.5	45.0	44.5	44.0	43.0	43.0	42.5
	11	50.0	66.1	41.7	59.5	58.5	56.5	55.0	49.0	43.0	42.5	42.0	41.5
	12	42.3	53.5	40.8	47.0	46.0	44.0	43.5	42.0	41.5	40.5	40.5	40.5
	13	43.4	60.1	40.7	54.5	49.5	45.0	43.5	41.5	41.0	40.5	40.5	40.5
	14	43.2	55.6	40.7	50.5	49.5	47.5	46.0	42.5	41.5	40.5	40.5	40.5
	15	42.3	54.9	39.6	49.5	48.0	45.0	43.5	41.5	40.5	40.5	40.5	40.0
	16	41.4	53.3	39.5	48.0	46.0	43.5	42.5	41.0	40.5	39.5	39.5	39.5
	17	41.7	55.3	39.1	48.0	46.5	45.0	44.0	41.5	40.5	39.5	39.5	39.5
	18	44.2	66.4	37.8	55.5	51.5	47.5	45.5	42.0	40.5	39.5	39.5	39.5
	19	42.8	63.0	37.8	51.0	49.0	46.5	45.0	42.0	40.5	39.0	38.0	37.5
	20	44.2	64.5	37.8	53.5	51.5	48.0	45.5	41.5	40.5	39.5	39.0	37.5
	21	42.7	65.5	37.8	52.0	49.0	45.5	43.5	40.5	39.5	37.5	37.5	37.5
Night	22	40.6	60.8	37.4	49.5	46.5	43.0	41.5	39.5	37.5	37.5	37.5	37.5
	23	39.0	57.9	37.2	45.0	43.5	41.5	40.5	38.0	37.5	37.5	37.5	37.5

URBAN CROSSROADS

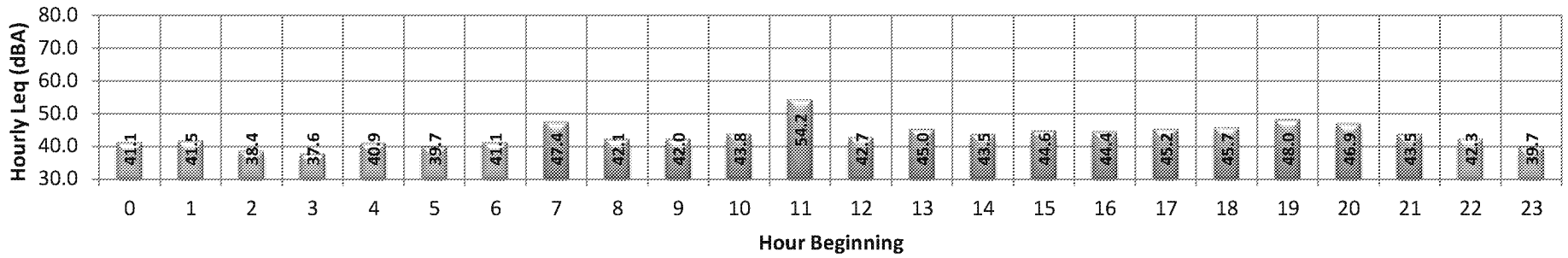
24-Hour Noise Level Measurement Summary

Project Name: Moreno Valley Walmart Noise Impact Analysis *Job Number:* 8870

Location: L4 - Located west of the Project site north of the baseball diamond at the March Middle School. *Analyst:* Bill Lawson

Date: 10/2/2013

Hourly Leq dBA Readings (unadjusted)



Time Period	Energy Average (Leq)	Average (Leq)	Minimum (Leq)	Maximum (Leq)	CNEL
Daytime Hourly (7am-10pm):	46.7	45.3	42.0	54.2	
Nighttime Hourly (10pm-7am):	40.5	40.3	37.6	42.3	
24-Hour:	45.3	43.4	37.6	54.2	49.2

Hourly Summary

Time Period	Hour	Leq	Lmax	Lmin	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
	0	41.1	58.9	37.4	47.0	45.0	43.0	42.5	41.0	40.0	39.0	39.0	38.0
	1	41.5	51.8	38.9	46.0	44.5	43.5	43.0	42.0	41.0	39.0	39.0	39.0
	2	38.4	45.2	37.2	42.0	41.5	40.5	40.0	39.0	37.0	37.0	37.0	37.0
Night	3	37.6	45.2	37.2	40.5	39.5	39.0	38.5	37.5	37.0	37.0	37.0	37.0
	4	40.9	51.8	37.3	46.0	45.0	43.5	42.5	41.0	40.0	39.0	39.0	37.0
	5	39.7	49.8	37.3	44.0	43.0	42.0	41.0	40.0	39.0	37.0	37.0	37.0
	6	41.1	53.7	37.3	47.5	46.0	44.0	43.0	41.0	40.0	37.5	37.0	37.0
	7	47.4	74.3	38.9	56.5	54.0	50.0	47.5	43.5	41.5	40.0	39.0	39.0
	8	42.1	60.5	37.5	50.5	48.5	45.5	44.0	41.0	40.0	39.0	39.0	38.5
	9	42.0	61.2	37.4	47.5	45.5	44.0	43.5	42.0	40.5	39.0	39.0	37.5
	10	43.8	60.4	39.8	53.0	50.5	46.0	45.0	43.0	42.0	41.0	40.5	40.0
	11	54.2	72.1	39.1	64.5	63.5	61.5	59.0	52.5	42.0	40.0	40.0	39.0
	12	42.7	60.5	37.4	51.5	49.5	46.5	45.0	42.0	40.5	39.0	39.0	37.5
	13	45.0	67.3	37.4	55.0	53.0	48.0	45.5	41.5	40.0	39.0	39.0	38.5
Day	14	43.5	66.0	37.6	52.5	51.0	48.5	46.5	42.0	40.0	39.0	39.0	39.0
	15	44.6	58.2	39.0	53.0	51.0	49.0	47.5	44.0	42.5	40.0	40.0	39.0
	16	44.4	56.6	39.1	52.0	50.0	48.0	47.0	44.5	42.5	41.0	40.5	40.0
	17	45.2	55.9	40.3	52.0	51.0	48.5	47.5	45.0	43.5	42.0	41.5	41.0
	18	45.7	61.7	41.3	51.0	50.5	49.0	48.0	46.0	44.5	43.0	42.5	42.0
	19	48.0	69.3	40.1	60.0	55.0	50.0	48.0	45.0	43.5	42.0	41.5	40.5
	20	46.9	68.3	40.4	56.5	51.5	48.0	47.0	45.0	44.0	42.0	42.0	41.0
	21	43.5	59.1	39.1	51.5	49.5	46.0	45.0	43.0	42.0	40.5	40.0	39.5
Night	22	42.3	59.2	37.4	50.0	47.0	44.0	43.5	42.0	41.0	39.5	39.0	39.0
	23	39.7	54.8	37.2	46.5	45.0	42.5	41.5	39.5	38.5	37.0	37.0	37.0

URBAN CROSSROADS

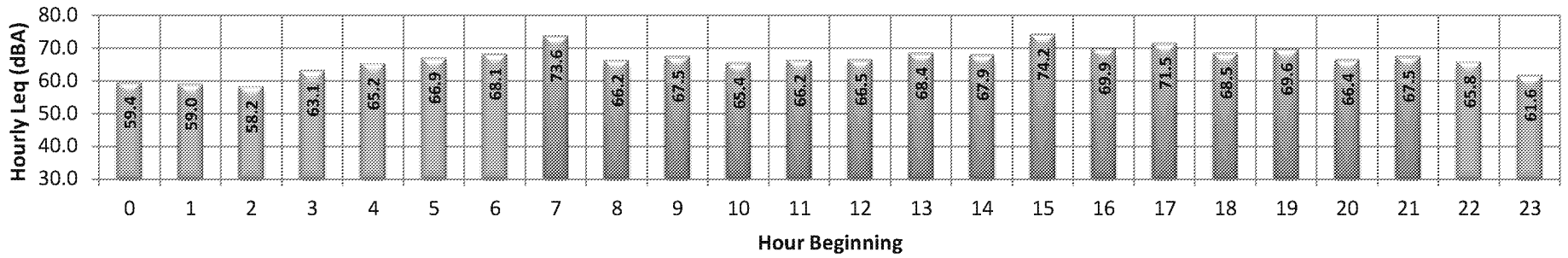
24-Hour Noise Level Measurement Summary

Project Name: Moreno Valley Walmart Noise Impact Analysis *Job Number:* 8870

Location: L5 - Located west of the Project site and Indian Street in front of the backyard of homes on Electra Court. *Analyst:* Bill Lawson

Date: 10/4/2013

Hourly Leq dBA Readings (unadjusted)



Time Period	Energy Average (Leq)	Average (Leq)	Minimum (Leq)	Maximum (Leq)	CNEL
Daytime Hourly (7am-10pm):	69.5	68.6	65.4	74.2	
Nighttime Hourly (10pm-7am):	64.3	63.0	58.2	68.1	
24-Hour:	68.2	66.5	58.2	74.2	72.4

Hourly Summary

Time Period	Hour	Leq	Lmax	Lmin	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
	0	59.4	81.7	41.7	73.0	70.5	63.0	58.0	46.5	43.5	42.5	41.5	41.5
	1	59.0	82.1	42.6	73.0	70.0	62.5	58.5	48.0	45.0	43.5	43.0	43.0
	2	58.2	80.2	42.6	72.0	69.5	63.0	58.5	48.0	44.5	43.0	43.0	42.5
Night	3	63.1	85.1	43.4	74.5	73.0	70.0	67.5	57.0	50.0	45.0	44.5	43.5
	4	65.2	85.3	46.8	76.5	74.5	72.0	70.0	61.0	54.5	48.5	48.0	47.5
	5	66.9	88.6	47.9	77.5	76.0	73.0	71.5	63.5	56.5	51.0	50.5	49.0
	6	68.1	83.4	50.8	77.0	76.0	74.0	72.5	68.5	62.5	54.5	53.5	51.5
	7	73.6	102.8	43.9	77.5	75.0	73.0	71.5	67.5	61.0	52.0	49.5	46.0
	8	66.2	83.7	38.4	76.5	74.5	72.0	71.0	66.0	58.5	44.5	42.5	40.5
	9	67.5	93.3	39.5	76.0	74.5	72.0	70.5	65.0	57.0	44.0	42.0	40.0
	10	65.4	84.5	39.4	75.0	74.0	72.0	70.5	65.0	56.5	43.5	42.0	40.0
	11	66.2	87.4	39.6	75.5	74.5	72.5	71.0	66.0	58.5	46.0	44.0	42.0
	12	66.5	89.1	39.2	76.0	74.5	72.5	71.5	65.5	57.0	43.5	42.0	39.5
	13	68.4	91.7	40.8	77.5	75.5	73.5	72.5	68.5	63.5	49.5	46.5	42.5
Day	14	67.9	83.9	41.2	76.5	75.5	73.5	72.5	68.5	63.5	51.5	49.0	44.0
	15	74.2	104.9	42.4	78.5	76.5	74.5	73.0	69.0	62.5	50.5	48.0	44.5
	16	69.9	91.9	45.3	79.0	76.5	74.5	73.5	69.5	64.0	52.0	50.0	47.0
	17	71.5	96.6	46.9	80.0	77.5	75.0	74.0	70.0	65.0	54.0	52.0	49.0
	18	68.5	89.9	45.3	77.5	75.5	73.5	72.5	68.5	62.0	51.5	49.5	47.5
	19	69.6	94.8	43.8	80.0	76.5	74.0	72.5	67.5	59.5	48.0	46.5	45.0
	20	66.4	86.4	42.6	75.5	74.5	73.0	71.5	66.5	59.0	49.0	47.5	45.0
	21	67.5	92.5	44.1	78.0	75.5	73.0	71.5	64.5	56.5	48.0	47.0	45.0
Night	22	65.8	88.8	44.4	76.0	74.5	72.0	70.0	62.0	54.5	47.0	46.0	45.0
	23	61.6	83.6	43.1	73.5	72.0	68.5	65.5	55.0	49.5	45.0	44.5	43.5

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APPENDIX 7.1:

TRAFFIC NOISE CONTOURS

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Sunnymead Boulevard
Road Segment: Perris Boulevard to SR-60 EB On-Ramp

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 17,180 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,718 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.46	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.72	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.67	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.6	63.7	61.9	55.9	64.5	65.1
Medium Trucks:	59.0	57.5	51.1	49.6	58.0	58.3
Heavy Trucks:	59.0	57.6	48.6	49.8	58.2	58.3
Vehicle Noise:	67.2	65.4	62.4	57.6	66.1	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	55	119	256	552
CNEL:	59	128	275	593

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Eucalyptus Avenue
Road Segment: East of Perris Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 8,876 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 888 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-3.07	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-20.30	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-24.26	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.6	55.7	54.0	47.9	56.5	57.1
Medium Trucks:	51.6	50.1	43.7	42.2	50.6	50.9
Heavy Trucks:	52.9	51.5	42.5	43.7	52.1	52.2
Vehicle Noise:	59.6	57.9	54.6	50.1	58.6	59.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	17	38	81	174
CNEL:	19	40	87	187

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Cottonwood Avenue
Road Segment: West of Indian Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 9,720 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 972 vehicles
Vehicle Speed: 45 mph
Near/Far Lane Distance: 24 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.403
Medium Trucks: 99.314
Heavy Trucks: 99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.07	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-19.31	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-23.27	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.6	58.7	56.9	50.9	59.5	60.1
Medium Trucks:	54.4	52.9	46.5	44.9	53.4	53.6
Heavy Trucks:	55.2	53.8	44.8	46.0	54.4	54.5
Vehicle Noise:	62.4	60.7	57.6	52.9	61.4	61.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	27	58	124	268
CNEL:	29	62	133	287

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Cottonwood Avenue
Road Segment: East of Indian Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 7,838 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 784 vehicles
Vehicle Speed: 45 mph
Near/Far Lane Distance: 24 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.403
Medium Trucks: 99.314
Heavy Trucks: 99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.01	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-20.25	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-24.20	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.7	57.8	56.0	50.0	58.6	59.2
Medium Trucks:	53.4	51.9	45.6	44.0	52.5	52.7
Heavy Trucks:	54.3	52.9	43.8	45.1	53.4	53.5
Vehicle Noise:	61.5	59.8	56.6	51.9	60.5	60.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	23	50	108	232
CNEL:	25	54	115	249

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Cottonwood Avenue
Road Segment: West of Perris Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 8,708 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 871 vehicles
Vehicle Speed: 45 mph
Near/Far Lane Distance: 24 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.403
Medium Trucks: 99.314
Heavy Trucks: 99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.69	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-20.62	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-24.88	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.0	57.1	55.3	49.3	57.9	58.5
Medium Trucks:	52.8	51.2	44.9	43.3	51.8	52.0
Heavy Trucks:	53.6	52.2	43.1	44.4	52.7	52.9
Vehicle Noise:	60.8	59.1	55.9	51.3	59.8	60.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	21	45	97	209
CNEL:	22	48	104	224

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Cottonwood Avenue
Road Segment: East of Perris Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 7,868 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 787 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.59	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-19.63	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-23.79	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.1	56.2	54.4	48.4	57.0	57.6
Medium Trucks:	52.1	50.6	44.2	42.7	51.1	51.4
Heavy Trucks:	53.4	52.0	42.9	44.2	52.5	52.7
Vehicle Noise:	60.1	58.4	55.1	50.6	59.1	59.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	19	40	87	187
CNEL:	20	43	93	201

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alessandro Boulevard
Road Segment: West of Heacock Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,312 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,731 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.54	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.70	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.66	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.4	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.8	60.3	53.9	52.4	60.8	61.1
Heavy Trucks:	61.8	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	70.0	68.2	65.2	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	85	183	394	848
CNEL:	91	197	424	913

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alessandro Boulevard
Road Segment: East of Heacock Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,004 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,800 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.33	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.91	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.87	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.2	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	61.6	60.1	53.7	52.2	60.6	60.8
Heavy Trucks:	61.6	60.2	51.1	52.4	60.7	60.9
Vehicle Noise:	69.8	68.0	65.0	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	82	177	381	821
CNEL:	88	190	410	883

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alessandro Boulevard
Road Segment: West of Indian Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,424 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,342 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.67	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.36	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.32	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.7	65.8	64.1	58.0	66.6	67.2
Medium Trucks:	61.1	59.6	53.2	51.7	60.2	60.4
Heavy Trucks:	61.1	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	69.3	67.5	64.6	59.7	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	77	166	355	766
CNEL:	82	177	382	824

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alessandro Boulevard
Road Segment: East of Indian Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,836 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,284 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.76	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.47	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.43	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.6	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	61.0	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	61.0	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	69.2	67.4	64.5	59.6	68.2	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	75	162	349	753
CNEL:	81	175	376	810

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alessandro Boulevard
Road Segment: West of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,960 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,196 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.59	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.64	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.60	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.4	65.5	63.8	57.7	66.3	66.9
Medium Trucks:	60.8	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.9	59.4	50.4	51.7	60.0	60.1
Vehicle Noise:	69.0	67.3	64.3	59.4	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	73	158	340	734
CNEL:	79	170	366	789

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Alessandro Boulevard
Road Segment: East of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,800 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.27	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.51	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.46	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.8	63.9	62.1	56.1	64.7	65.3
Medium Trucks:	59.2	57.7	51.3	49.8	58.2	58.5
Heavy Trucks:	59.2	57.8	48.8	50.0	58.4	58.5
Vehicle Noise:	67.4	65.6	62.7	57.6	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	57	123	264	570
CNEL:	61	132	284	613

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Cactus Avenue
Road Segment: West of I-215 Freeway

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 12,576 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,258 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.83	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.07	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.02	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.2	62.3	60.6	54.5	63.1	63.7
Medium Trucks:	57.8	56.1	49.6	48.2	56.7	56.9
Heavy Trucks:	57.7	56.2	47.2	48.5	56.8	56.9
Vehicle Noise:	65.8	64.1	61.1	56.2	64.8	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	45	97	208	448
CNEL:	48	104	224	482

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Cactus Avenue
Road Segment: I-215 SB Ramps to I-215 NB Ramps

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 22,548 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,255 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.71	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.53	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.49	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	64.9	63.1	57.1	65.7	66.3
Medium Trucks:	60.2	58.7	52.3	50.7	59.2	59.4
Heavy Trucks:	60.2	58.8	49.7	51.0	59.3	59.5
Vehicle Noise:	68.3	66.6	63.6	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	66	143	307	662
CNEL:	71	153	330	712

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Cactus Avenue
Road Segment: East of I-215 NB Ramps

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 34,844 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 3,484 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.57	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-14.66	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.62	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.6	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	62.0	60.5	54.2	52.6	61.1	61.3
Heavy Trucks:	62.1	60.6	51.6	52.9	61.2	61.3
Vehicle Noise:	70.2	68.5	65.5	60.6	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	88	190	409	881
CNEL:	95	204	440	948

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Cactus Avenue
Road Segment: West of Elsworth Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 34,092 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 3,409 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.50	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-14.73	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.69	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.6	66.7	64.9	58.8	67.5	68.1
Medium Trucks:	62.0	60.4	54.1	52.5	61.0	61.2
Heavy Trucks:	62.0	60.6	51.5	52.8	61.1	61.3
Vehicle Noise:	70.1	68.4	65.4	60.6	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	87	188	405	872
CNEL:	94	202	435	938

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Cactus Avenue
Road Segment: East of Elsworth Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 30,420 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 3,042 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.01	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.23	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.19	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.9	67.0	65.2	59.1	67.8	68.4
Medium Trucks:	62.2	60.7	54.4	52.8	61.3	61.5
Heavy Trucks:	62.3	60.9	51.8	53.1	61.4	61.6
Vehicle Noise:	70.4	68.7	65.7	60.8	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	91	196	423	912
CNEL:	98	211	455	981

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Cactus Avenue
Road Segment: West of Frederick Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 29,508 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,951 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.88	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.36	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.32	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.7	66.8	65.1	59.0	67.6	68.2
Medium Trucks:	62.1	60.6	54.2	52.7	61.2	61.4
Heavy Trucks:	62.2	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	70.3	68.5	65.6	60.7	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	89	192	415	893
CNEL:	96	207	446	961

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing — Project Name: Moreno Valley Walmart
Road Name: Cactus Avenue — Job Number: 8870
Road Segment: East of Frederick Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 32,544 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 3,254 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.30	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-14.94	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.89	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.1	67.2	65.5	59.4	68.1	68.7
Medium Trucks:	62.5	61.0	54.7	53.1	61.6	61.8
Heavy Trucks:	62.6	61.2	52.1	53.4	61.7	61.8
Vehicle Noise:	70.7	69.0	66.0	61.1	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	95	205	443	954
CNEL:	103	221	476	1,026

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing — Project Name: Moreno Valley Walmart
Road Name: Cactus Avenue — Job Number: 8870
Road Segment: West of Graham Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 31,536 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 3,154 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.17	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.07	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.03	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.0	67.1	65.3	59.3	67.9	68.5
Medium Trucks:	62.4	60.9	54.5	53.0	61.4	61.7
Heavy Trucks:	62.4	61.0	52.0	53.2	61.6	61.7
Vehicle Noise:	70.6	68.8	65.9	61.0	69.6	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	93	201	433	934
CNEL:	100	216	466	1,005

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing — Project Name: Moreno Valley Walmart
Road Name: Cactus Avenue — Job Number: 8870
Road Segment: East of Graham Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 26,232 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,623 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.37	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.87	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.83	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.2	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	61.6	60.1	53.7	52.2	60.7	60.9
Heavy Trucks:	61.6	60.2	51.2	52.4	60.8	60.9
Vehicle Noise:	69.8	68.0	65.1	60.2	68.8	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	83	178	383	826
CNEL:	89	191	412	888

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing — Project Name: Moreno Valley Walmart
Road Name: Cactus Avenue — Job Number: 8870
Road Segment: West of Heacock Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 26,112 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,611 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.35	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.88	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.85	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.2	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	61.6	60.1	53.7	52.2	60.6	60.9
Heavy Trucks:	61.6	60.2	51.2	52.4	60.8	60.9
Vehicle Noise:	69.8	68.0	65.1	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	82	177	382	823
CNEL:	89	191	411	886

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing — Project Name: Moreno Valley Walmart
Road Name: Cactus Avenue — Job Number: 8870
Road Segment: East of Heacock Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 15,936 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,594 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.80	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.04	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.99	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.3	63.4	61.6	55.5	64.2	64.8
Medium Trucks:	58.7	57.1	50.8	49.2	57.7	57.9
Heavy Trucks:	58.7	57.3	48.2	49.5	57.8	58.0
Vehicle Noise:	66.8	65.1	62.1	57.3	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	53	113	244	525
CNEL:	56	122	262	565

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing — Project Name: Moreno Valley Walmart
Road Name: Cactus Avenue — Job Number: 8870
Road Segment: West of Indian Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 15,468 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,547 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.93	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.17	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.12	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.1	63.2	61.5	55.4	64.0	64.6
Medium Trucks:	58.5	57.0	50.7	49.1	57.6	57.8
Heavy Trucks:	58.6	57.1	48.1	49.4	57.7	57.8
Vehicle Noise:	66.7	65.0	62.0	57.1	65.7	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	51	111	239	515
CNEL:	55	119	257	554

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing — Project Name: Moreno Valley Walmart
Road Name: Cactus Avenue — Job Number: 8870
Road Segment: East of Indian Street

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**	
Average Daily Traffic (Adt):	16,392 vehicles	Autos:	15
Peak Hour Percentage:	10%	Medium Trucks (2 Axles):	15
Peak Hour Volume:	1,639 vehicles	Heavy Trucks (3+ Axles):	15
Vehicle Speed:	55 mph		
Near/Far Lane Distance:	36 feet		
Site Data			
Barrier Height:	**0.0 feet**		
Barrier Type (0-Wall, 1-Berm):	0.0		
Centerline Dist. to Barrier:	100.0 feet		
Centerline Dist. to Observer:	100.0 feet		
Barrier Distance to Observer:	0.0 feet		
Observer Height (Above Pad):	5.0 feet		
Pad Elevation:	0.0 feet		
Road Elevation:	0.0 feet		
Road Grade:	0.0%		
Left View:	-90.0 degrees		
Right View:	90.0 degrees		

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.68	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.91	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.87	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.4	63.5	61.7	55.7	64.3	64.9
Medium Trucks:	58.8	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	57.4	48.4	49.6	58.0	58.1
Vehicle Noise:	67.0	65.2	62.2	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	54	115	248	535
CNEL:	58	124	267	576

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing — Project Name: Moreno Valley Walmart
Road Name: Cactus Avenue — Job Number: 8870
Road Segment: West of Perris Boulevard

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**	
Average Daily Traffic (Adt):	14,064 vehicles	Autos:	15
Peak Hour Percentage:	10%	Medium Trucks (2 Axles):	15
Peak Hour Volume:	1,406 vehicles	Heavy Trucks (3+ Axles):	15
Vehicle Speed:	55 mph		
Near/Far Lane Distance:	36 feet		
Site Data			
Barrier Height:	**0.0 feet**		
Barrier Type (0-Wall, 1-Berm):	0.0		
Centerline Dist. to Barrier:	100.0 feet		
Centerline Dist. to Observer:	100.0 feet		
Barrier Distance to Observer:	0.0 feet		
Observer Height (Above Pad):	5.0 feet		
Pad Elevation:	0.0 feet		
Road Elevation:	0.0 feet		
Road Grade:	0.0%		
Left View:	-90.0 degrees		
Right View:	90.0 degrees		

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.34	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.58	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.54	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.7	62.8	61.1	55.0	63.6	64.2
Medium Trucks:	58.1	56.6	50.2	48.7	57.2	57.4
Heavy Trucks:	58.1	56.7	47.7	48.9	57.3	57.4
Vehicle Noise:	66.3	64.5	61.6	56.7	65.3	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	48	104	224	483
CNEL:	52	112	241	520

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing — Project Name: Moreno Valley Walmart
Road Name: Cactus Avenue — Job Number: 8870
Road Segment: East of Perris Boulevard

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**	
Average Daily Traffic (Adt):	13,778 vehicles	Autos:	15
Peak Hour Percentage:	10%	Medium Trucks (2 Axles):	15
Peak Hour Volume:	1,378 vehicles	Heavy Trucks (3+ Axles):	15
Vehicle Speed:	55 mph		
Near/Far Lane Distance:	36 feet		
Site Data			
Barrier Height:	**0.0 feet**		
Barrier Type (0-Wall, 1-Berm):	0.0		
Centerline Dist. to Barrier:	100.0 feet		
Centerline Dist. to Observer:	100.0 feet		
Barrier Distance to Observer:	0.0 feet		
Observer Height (Above Pad):	5.0 feet		
Pad Elevation:	0.0 feet		
Road Elevation:	0.0 feet		
Road Grade:	0.0%		
Left View:	-90.0 degrees		
Right View:	90.0 degrees		

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.43	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.67	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.63	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.6	62.7	61.0	54.9	63.5	64.1
Medium Trucks:	58.0	56.5	50.2	48.6	57.1	57.3
Heavy Trucks:	58.1	56.6	47.6	48.8	57.2	57.3
Vehicle Noise:	66.2	64.4	61.5	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	48	103	221	477
CNEL:	51	110	238	513

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing — Project Name: Moreno Valley Walmart
Road Name: Cactus Avenue — Job Number: 8870
Road Segment: East of Kitching Street

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**	
Average Daily Traffic (Adt):	10,956 vehicles	Autos:	15
Peak Hour Percentage:	10%	Medium Trucks (2 Axles):	15
Peak Hour Volume:	1,096 vehicles	Heavy Trucks (3+ Axles):	15
Vehicle Speed:	55 mph		
Near/Far Lane Distance:	36 feet		
Site Data			
Barrier Height:	**0.0 feet**		
Barrier Type (0-Wall, 1-Berm):	0.0		
Centerline Dist. to Barrier:	100.0 feet		
Centerline Dist. to Observer:	100.0 feet		
Barrier Distance to Observer:	0.0 feet		
Observer Height (Above Pad):	5.0 feet		
Pad Elevation:	0.0 feet		
Road Elevation:	0.0 feet		
Road Grade:	0.0%		
Left View:	-90.0 degrees		
Right View:	90.0 degrees		

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-2.43	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.66	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.62	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.6	61.7	60.0	53.9	62.5	63.1
Medium Trucks:	57.0	55.5	49.2	47.6	56.1	56.3
Heavy Trucks:	57.1	55.6	46.6	47.9	56.2	56.3
Vehicle Noise:	65.2	63.5	60.5	55.6	64.2	64.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	41	88	190	409
CNEL:	44	95	204	440

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing — Project Name: Moreno Valley Walmart
Road Name: John F. Kennedy Drive — Job Number: 8870
Road Segment: West of Heacock Street

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**	
Average Daily Traffic (Adt):	8,040 vehicles	Autos:	15
Peak Hour Percentage:	10%	Medium Trucks (2 Axles):	15
Peak Hour Volume:	804 vehicles	Heavy Trucks (3+ Axles):	15
Vehicle Speed:	55 mph		
Near/Far Lane Distance:	36 feet		
Site Data			
Barrier Height:	**0.0 feet**		
Barrier Type (0-Wall, 1-Berm):	0.0		
Centerline Dist. to Barrier:	100.0 feet		
Centerline Dist. to Observer:	100.0 feet		
Barrier Distance to Observer:	0.0 feet		
Observer Height (Above Pad):	5.0 feet		
Pad Elevation:	0.0 feet		
Road Elevation:	0.0 feet		
Road Grade:	0.0%		
Left View:	-90.0 degrees		
Right View:	90.0 degrees		

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-3.77	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-21.01	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-24.96	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.3	60.4	58.6	52.6	61.2	61.8
Medium Trucks:	55.7	54.2	47.8	46.3	54.7	55.0
Heavy Trucks:	55.7	54.3	45.3	46.5	54.9	55.0
Vehicle Noise:	63.9	62.1	59.2	54.3	62.8	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	72	154	333
CNEL:	36	77	166	358

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing — Project Name: Moreno Valley Walmart
Road Name: John F. Kennedy Drive — Job Number: 8870
Road Segment: East of Heacock Street

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**	
Average Daily Traffic (Adt):	10,044 vehicles	Autos:	15
Peak Hour Percentage:	10%	Medium Trucks (2 Axles):	15
Peak Hour Volume:	1,004 vehicles	Heavy Trucks (3+ Axles):	15
Vehicle Speed:	55 mph		
Near/Far Lane Distance:	36 feet		
Site Data			
Barrier Height:	**0.0 feet**		
Barrier Type (0-Wall, 1-Berm):	0.0		
Centerline Dist. to Barrier:	100.0 feet		
Centerline Dist. to Observer:	100.0 feet		
Barrier Distance to Observer:	0.0 feet		
Observer Height (Above Pad):	5.0 feet		
Pad Elevation:	0.0 feet		
Road Elevation:	0.0 feet		
Road Grade:	0.0%		
Left View:	-90.0 degrees		
Right View:	90.0 degrees		

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-2.80	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-20.04	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-24.00	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.3	61.4	59.6	53.5	62.2	62.8
Medium Trucks:	56.6	55.1	48.8	47.2	55.7	55.9
Heavy Trucks:	56.7	55.3	46.2	47.5	55.6	56.0
Vehicle Noise:	64.8	63.1	60.1	55.2	63.8	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	39	83	178	386
CNEL:	42	89	193	415

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: John F. Kennedy Drive
Road Segment: West of Indian Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,038 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	904 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-3.26	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-20.50	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-24.46	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.8	60.9	59.1	53.1	61.7	62.3
Medium Trucks:	56.2	54.7	48.3	46.8	55.2	55.5
Heavy Trucks:	56.2	54.8	45.8	47.0	55.4	55.5
Vehicle Noise:	64.4	62.6	59.7	54.8	63.3	63.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	36	78	167	360
CNEL:	39	83	180	387

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: John F. Kennedy Drive
Road Segment: East of Indian Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,106 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	911 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-3.23	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-20.47	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-24.42	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.8	60.9	59.2	53.1	61.7	62.3
Medium Trucks:	56.2	54.7	48.4	46.8	55.3	55.5
Heavy Trucks:	56.3	54.8	45.8	47.1	55.4	55.5
Vehicle Noise:	64.4	62.6	59.7	54.8	63.4	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	36	78	168	362
CNEL:	39	84	181	389

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: John F. Kennedy Drive
Road Segment: West of Perris Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,048 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	905 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-3.26	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-20.50	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-24.45	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.8	60.9	59.1	53.1	61.7	62.3
Medium Trucks:	56.2	54.7	48.3	46.8	55.2	55.5
Heavy Trucks:	56.2	54.8	45.8	47.0	55.4	55.5
Vehicle Noise:	64.4	62.6	59.7	54.8	63.3	63.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	36	78	167	360
CNEL:	39	83	180	387

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: John F. Kennedy Drive
Road Segment: East of Perris Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,144 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	914 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-3.21	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-20.45	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-24.41	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.9	61.0	59.2	53.1	61.8	62.4
Medium Trucks:	56.2	54.7	48.4	46.8	55.3	55.5
Heavy Trucks:	56.3	54.9	45.8	47.1	55.4	55.6
Vehicle Noise:	64.4	62.7	59.7	54.8	63.4	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	36	78	168	363
CNEL:	39	84	181	390

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: John F. Kennedy Drive
Road Segment: West of Kitching Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,280 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	828 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-3.64	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-20.88	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-24.84	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.4	60.5	58.8	52.7	61.3	61.9
Medium Trucks:	55.8	54.3	47.9	46.4	54.9	55.1
Heavy Trucks:	55.8	54.4	45.4	46.6	55.0	55.1
Vehicle Noise:	64.0	62.2	59.3	54.4	63.0	63.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	34	73	158	339
CNEL:	37	79	169	365

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: John F. Kennedy Drive
Road Segment: East of Kitching Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,796 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	580 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-5.19	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-22.43	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-26.39	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.9	59.0	57.2	51.2	59.8	60.4
Medium Trucks:	54.3	52.8	46.4	44.8	53.3	53.5
Heavy Trucks:	54.3	52.9	43.8	45.1	53.4	53.6
Vehicle Noise:	62.4	60.7	57.7	52.9	61.4	61.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	27	58	124	268
CNEL:	29	62	134	288

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing — Project Name: Moreno Valley Walmart
Road Name: Gentian Avenue — Job Number: 8870
Road Segment: West of Indian Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,584 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	158 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-9.95	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-27.19	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-31.15	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.8	50.9	49.1	43.1	51.7	52.3
Medium Trucks:	48.5	45.0	38.7	37.1	45.6	45.8
Heavy Trucks:	47.4	46.0	36.9	38.2	46.5	46.7
Vehicle Noise:	54.6	52.9	49.7	45.1	53.6	54.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	8	17	37	81
CNEL:	9	19	40	86

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing — Project Name: Moreno Valley Walmart
Road Name: Gentian Avenue — Job Number: 8870
Road Segment: East of Perris Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,966 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	197 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-8.50	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-25.74	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-29.69	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.2	50.3	48.5	42.5	51.1	51.7
Medium Trucks:	46.2	44.7	38.3	36.8	45.2	45.4
Heavy Trucks:	47.5	46.1	37.0	38.3	46.6	46.8
Vehicle Noise:	54.2	52.5	49.2	44.8	53.2	53.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	6	16	35	76
CNEL:	8	17	38	81

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing — Project Name: Moreno Valley Walmart
Road Name: Santiago Drive — Job Number: 8870
Road Segment: East of Perris Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,460 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	246 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-7.53	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-24.77	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-28.72	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.2	51.3	49.5	43.4	52.1	52.7
Medium Trucks:	47.1	45.6	39.3	37.7	46.2	46.4
Heavy Trucks:	48.5	47.0	38.0	39.3	47.6	47.7
Vehicle Noise:	55.2	53.4	50.2	45.6	54.2	54.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	9	19	41	88
CNEL:	9	20	44	94

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing — Project Name: Moreno Valley Walmart
Road Name: Iris Avenue — Job Number: 8870
Road Segment: West of Indian Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,840 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	984 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.51	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-18.75	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-22.70	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.2	57.3	55.5	49.5	58.1	58.7
Medium Trucks:	53.2	51.7	45.3	43.7	52.2	52.4
Heavy Trucks:	54.5	53.1	44.0	45.3	53.6	53.8
Vehicle Noise:	61.2	59.5	56.2	51.6	60.2	60.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	22	48	103	221
CNEL:	24	51	110	237

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing — Project Name: Moreno Valley Walmart
Road Name: Iris Avenue — Job Number: 8870
Road Segment: East of Indian Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,504 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,250 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.85	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.09	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.05	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.2	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.6	56.1	49.7	48.2	56.6	56.9
Heavy Trucks:	57.6	56.2	47.2	48.4	56.8	56.9
Vehicle Noise:	65.8	64.0	61.1	56.2	64.8	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	45	98	207	447
CNEL:	48	104	223	481

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing — Project Name: Moreno Valley Walmart
Road Name: Iris Avenue — Job Number: 8870
Road Segment: West of Perris Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,988 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,199 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-2.04	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.27	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.23	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.0	62.1	60.4	54.3	62.9	63.5
Medium Trucks:	57.4	55.9	49.5	48.0	56.5	56.7
Heavy Trucks:	57.5	56.0	47.0	48.2	56.6	56.7
Vehicle Noise:	65.6	63.8	60.9	56.0	64.6	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	43	94	202	434
CNEL:	47	101	217	467

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Iris Avenue
Road Segment: East of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	15,264 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	1,526 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.76	-0.96	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.22	-4.51	-1.20	-4.58	0.000	0.000
Heavy Trucks:	86.40	-22.18	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.1	63.2	61.4	55.4	64.0	64.6
Medium Trucks:	58.5	57.0	50.6	49.1	57.5	57.7
Heavy Trucks:	58.5	57.1	48.0	48.3	57.6	57.8
Vehicle Noise:	66.7	64.8	61.8	57.1	66.5	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	51	110	237	510
CNEL:	55	118	255	548

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Iris Avenue
Road Segment: West of Kitching Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	18,490 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	1,846 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.16	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.39	-4.51	-1.20	-4.58	0.000	0.000
Heavy Trucks:	86.40	-21.35	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.8	64.0	62.2	56.2	64.9	65.4
Medium Trucks:	59.2	57.8	51.4	49.9	58.3	58.5
Heavy Trucks:	59.3	57.9	48.9	50.1	58.5	58.6
Vehicle Noise:	67.5	66.7	62.8	57.9	66.4	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	58	125	269	580
CNEL:	62	134	289	624

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Iris Avenue
Road Segment: East of Kitching Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	18,300 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	1,830 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	98 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	97.316			
Road Grade:	0.0%	Medium Trucks:	97.214			
Left View:	-90.0 degrees	Heavy Trucks:	97.224			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.76	-0.20	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.44	-3.73	-1.20	-4.58	0.000	0.000
Heavy Trucks:	86.40	-21.39	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.6	64.7	53.0	58.9	65.6	66.2
Medium Trucks:	60.0	58.5	52.2	50.6	59.1	59.3
Heavy Trucks:	60.1	58.7	49.6	50.9	59.2	59.3
Vehicle Noise:	68.2	66.5	63.5	58.6	67.2	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	65	140	302	650
CNEL:	70	151	324	699

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Iris Avenue
Road Segment: West of Lasselle Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	16,524 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	1,652 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	99 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	97.316			
Road Grade:	0.0%	Medium Trucks:	97.214			
Left View:	-90.0 degrees	Heavy Trucks:	97.224			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.64	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.86	-3.73	-1.20	-4.58	0.000	0.000
Heavy Trucks:	86.40	-21.84	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.2	64.3	62.5	56.5	65.1	65.7
Medium Trucks:	59.6	58.1	51.7	50.2	58.6	58.9
Heavy Trucks:	59.6	58.2	48.2	50.4	58.8	58.9
Vehicle Noise:	67.6	66.0	63.1	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	61	131	282	607
CNEL:	65	141	303	653

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Iris Avenue
Road Segment: East of Lasselle Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	19,404 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	1,940 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	98 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	97.316			
Road Grade:	0.0%	Medium Trucks:	97.214			
Left View:	-90.0 degrees	Heavy Trucks:	97.224			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.06	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.18	-3.73	-1.20	-4.58	0.000	0.000
Heavy Trucks:	86.40	-21.14	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	65.0	63.2	57.2	65.9	66.4
Medium Trucks:	60.3	58.9	52.4	50.9	59.3	59.6
Heavy Trucks:	60.3	58.9	48.9	51.1	59.5	59.6
Vehicle Noise:	68.5	66.7	63.8	58.9	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	68	145	314	675
CNEL:	73	157	337	727

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Kramena Avenue
Road Segment: East of Indian Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	2,640 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	264 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	45 mph	**Vehicle Mix**				
Near/Far Lane Distance:	24 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	97.316			
Road Grade:	0.0%	Medium Trucks:	97.214			
Left View:	-90.0 degrees	Heavy Trucks:	97.224			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.76	-7.73	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-24.97	-4.57	-1.20	-4.58	0.000	0.000
Heavy Trucks:	86.40	-28.93	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.9	53.0	51.3	45.2	53.8	54.5
Medium Trucks:	48.7	47.2	40.8	38.3	47.7	48.0
Heavy Trucks:	49.5	48.1	39.1	40.0	48.7	48.8
Vehicle Noise:	56.9	55.0	51.9	47.2	55.8	56.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	11	24	52	112
CNEL:	12	26	56	120

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Krameria Avenue
Road Segment: West of Perris Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,300 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	330 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-6.25	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-23.49	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-27.45	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.4	52.5	50.8	44.7	53.3	54.0
Medium Trucks:	48.4	46.9	40.5	39.0	47.5	47.7
Heavy Trucks:	49.7	48.3	39.3	40.5	48.9	49.0
Vehicle Noise:	56.5	54.7	51.4	46.9	55.4	55.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	11	23	50	107
CNEL:	11	25	53	114

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Krameria Avenue
Road Segment: East of Perris Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,560 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	756 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-4.04	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-21.28	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-25.23	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.0	60.1	58.4	52.3	60.9	61.5
Medium Trucks:	55.4	53.9	47.5	46.0	54.5	54.7
Heavy Trucks:	55.5	54.0	45.0	46.2	54.6	54.7
Vehicle Noise:	63.6	61.8	58.9	54.0	62.6	63.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	32	69	148	319
CNEL:	34	74	159	344

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harley Knox Boulevard
Road Segment: West of Webster Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,300 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	930 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.403
Medium Trucks:	99.314
Heavy Trucks:	99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.27	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-19.50	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-23.46	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.4	58.5	56.7	50.7	59.3	59.9
Medium Trucks:	54.2	52.7	46.3	44.8	53.2	53.4
Heavy Trucks:	55.0	53.6	44.6	45.8	54.2	54.3
Vehicle Noise:	62.3	60.5	57.4	52.7	61.2	61.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	26	56	121	260
CNEL:	28	60	129	279

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harley Knox Boulevard
Road Segment: East of Webster Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,300 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	930 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.403
Medium Trucks:	99.314
Heavy Trucks:	99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.27	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-19.50	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-23.46	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.4	58.5	56.7	50.7	59.3	59.9
Medium Trucks:	54.2	52.7	46.3	44.8	53.2	53.4
Heavy Trucks:	55.0	53.6	44.6	45.8	54.2	54.3
Vehicle Noise:	62.3	60.5	57.4	52.7	61.2	61.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	26	56	121	260
CNEL:	28	60	129	279

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harley Knox Boulevard
Road Segment: West of Indian Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,552 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	955 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-3.02	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-20.26	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-24.22	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.0	61.1	59.4	53.3	61.9	62.5
Medium Trucks:	56.4	54.9	48.6	47.0	55.5	55.7
Heavy Trucks:	56.5	55.0	46.0	47.3	55.6	55.7
Vehicle Noise:	64.6	62.9	59.9	55.0	63.8	64.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	37	80	173	373
CNEL:	40	87	186	402

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harley Knox Boulevard
Road Segment: East of Indian Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,388 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	539 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-5.51	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-22.75	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-26.70	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.6	58.7	56.9	50.8	59.5	60.1
Medium Trucks:	53.9	52.4	46.1	44.5	53.0	53.2
Heavy Trucks:	54.0	52.6	43.5	44.8	53.1	53.3
Vehicle Noise:	62.1	60.4	57.4	52.5	61.1	61.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	25	55	118	255
CNEL:	27	59	127	274

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Harley Knox Boulevard
Road Segment: West of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,564 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	456 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.403
Medium Trucks:	99.314
Heavy Trucks:	99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-5.34	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-22.58	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-26.53	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.3	55.4	53.7	47.6	56.2	56.9
Medium Trucks:	51.1	49.6	43.2	41.7	50.1	50.4
Heavy Trucks:	51.8	50.5	41.5	42.7	51.1	51.2
Vehicle Noise:	59.2	57.4	54.3	48.6	58.2	58.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	16	35	75	162
CNEL:	17	37	81	174

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Ramona Expressway
Road Segment: West of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,620 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,862 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.74	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.49	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.46	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.6	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	62.0	60.5	54.1	52.6	61.0	61.3
Heavy Trucks:	62.0	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	70.2	68.4	65.5	60.6	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	88	189	406	875
CNEL:	94	203	437	942

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Ramona Expressway
Road Segment: East of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,080 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,508 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.17	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.07	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.02	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.0	66.1	64.4	58.3	66.9	67.5
Medium Trucks:	61.4	59.9	53.5	52.0	60.5	60.7
Heavy Trucks:	61.4	60.0	51.0	52.2	60.6	60.7
Vehicle Noise:	69.6	67.8	64.9	60.0	68.6	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	80	173	372	802
CNEL:	86	186	400	862

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Frederick Street
Road Segment: North of Cactus Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,772 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	577 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-5.21	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-22.45	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-26.40	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.9	59.0	57.2	51.1	59.8	60.4
Medium Trucks:	54.2	52.7	46.4	44.8	53.3	53.5
Heavy Trucks:	54.3	52.9	43.8	45.1	53.4	53.6
Vehicle Noise:	62.4	60.7	57.7	52.8	61.4	61.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	27	57	124	267
CNEL:	29	62	133	287

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Heacock Street
Road Segment: North of Alessandro Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,336 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,534 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.97	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.20	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.16	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.1	63.2	61.4	55.4	64.0	64.6
Medium Trucks:	58.5	57.0	50.6	49.1	57.5	57.8
Heavy Trucks:	58.5	57.1	48.1	49.3	57.7	57.8
Vehicle Noise:	66.7	64.9	62.0	57.1	65.6	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	51	110	238	512
CNEL:	55	119	256	551

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Heacock Street
Road Segment: North of Cactus Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,198 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,120 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-2.33	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.57	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.53	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.7	61.8	60.1	54.0	62.6	63.2
Medium Trucks:	57.1	55.6	49.3	47.7	56.2	56.4
Heavy Trucks:	57.2	55.7	46.7	47.9	56.3	56.4
Vehicle Noise:	65.3	63.5	60.6	55.7	64.3	64.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	42	89	193	415
CNEL:	45	96	207	448

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing — Project Name: Moreno Valley Walmart
Road Name: Indian Street — Job Number: 8870
Road Segment: North of Cottonwood Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 7,716 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 772 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.57	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-19.80	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-23.76	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.1	56.2	54.5	48.4	57.0	57.6
Medium Trucks:	52.1	50.6	44.2	42.7	51.1	51.4
Heavy Trucks:	53.4	52.0	43.0	44.2	52.6	52.7
Vehicle Noise:	60.1	58.4	55.1	50.6	59.1	59.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	19	41	87	186
CNEL:	20	43	94	201

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing — Project Name: Moreno Valley Walmart
Road Name: Indian Street — Job Number: 8870
Road Segment: North of Alessandro Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 10,680 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,068 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-2.54	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.78	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.73	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.5	61.6	59.9	53.8	62.4	63.0
Medium Trucks:	56.9	55.4	49.0	47.5	56.0	56.2
Heavy Trucks:	57.0	55.5	46.5	47.7	56.1	56.2
Vehicle Noise:	65.1	63.3	60.4	55.5	64.1	64.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	40	87	187	402
CNEL:	43	93	201	433

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing — Project Name: Moreno Valley Walmart
Road Name: Indian Street — Job Number: 8870
Road Segment: North of Cactus Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 10,992 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,099 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-2.41	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.65	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.61	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.6	61.8	60.0	53.9	62.6	63.2
Medium Trucks:	57.0	55.5	49.2	47.6	56.1	56.3
Heavy Trucks:	57.1	55.7	46.6	47.9	56.2	56.3
Vehicle Noise:	65.2	63.5	60.5	55.6	64.2	64.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	41	88	190	410
CNEL:	44	95	205	441

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing — Project Name: Moreno Valley Walmart
Road Name: Indian Street — Job Number: 8870
Road Segment: South of John F. Kennedy Drive

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 8,016 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 802 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-3.76	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-21.02	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-24.98	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.3	60.4	58.6	52.6	61.2	61.8
Medium Trucks:	55.7	54.2	47.8	46.3	54.7	54.9
Heavy Trucks:	55.7	54.3	45.2	46.5	54.9	55.0
Vehicle Noise:	63.9	62.1	59.1	54.3	62.8	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	72	154	332
CNEL:	36	77	166	357

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing — Project Name: Moreno Valley Walmart
Road Name: Indian Street — Job Number: 8870
Road Segment: North of Gentian Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 5,964 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 596 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-3.88	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-20.92	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-24.88	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.0	55.1	53.3	47.3	55.9	56.5
Medium Trucks:	51.0	49.5	43.1	41.6	50.0	50.3
Heavy Trucks:	52.3	50.9	41.8	43.1	51.5	51.6
Vehicle Noise:	59.0	57.3	54.0	49.5	58.0	58.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	16	34	74	158
CNEL:	17	37	79	170

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing — Project Name: Moreno Valley Walmart
Road Name: Indian Street — Job Number: 8870
Road Segment: South of Iris Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 4,260 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 426 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-5.15	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-22.38	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-26.34	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.6	53.7	51.9	45.8	54.5	55.1
Medium Trucks:	49.5	48.0	41.7	40.1	48.6	48.8
Heavy Trucks:	50.8	49.4	40.4	41.6	50.0	50.1
Vehicle Noise:	57.6	55.9	52.6	48.0	56.5	57.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	13	27	59	127
CNEL:	14	29	63	136

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing | Project Name: Moreno Valley Walmart
Road Name: Indian Street | Job Number: 8870
Road Segment: North of Krameria Avenue

SITE SPECIFIC INPUT DATA

Highway Data

- Average Daily Traffic (Adt): 4,392 vehicles
- Peak Hour Percentage: 10%
- Peak Hour Volume: 439 vehicles
- Vehicle Speed: 40 mph
- Near/Far Lane Distance: 12 feet

Site Data

- **Barrier Height: 0.0 feet**
- Barrier Type (0-Wall, 1-Berm): 0.0
- Centerline Dist. to Barrier: 100.0 feet
- Centerline Dist. to Observer: 100.0 feet
- Barrier Distance to Observer: 0.0 feet
- Observer Height (Above Pad): 5.0 feet
- Pad Elevation: 0.0 feet
- Road Elevation: 0.0 feet
- Road Grade: 0.0%
- Left View: -90.0 degrees
- Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

- Autos: 15
- Medium Trucks (2 Axles): 15
- Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

- Autos: 0.000
- Medium Trucks: 2.297
- Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

- Autos: 99.945
- Medium Trucks: 99.856
- Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-5.01	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-22.25	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-26.21	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.7	53.8	52.0	46.0	54.6	55.2
Medium Trucks:	49.7	48.1	41.8	40.2	48.7	48.9
Heavy Trucks:	51.0	49.6	40.5	41.8	50.1	50.3
Vehicle Noise:	57.7	56.0	52.7	48.1	56.7	57.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	13	28	60	129
CNEL:	14	30	64	138

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing | Project Name: Moreno Valley Walmart
Road Name: Indian Street | Job Number: 8870
Road Segment: South of Krameria Avenue

SITE SPECIFIC INPUT DATA

Highway Data

- Average Daily Traffic (Adt): 2,040 vehicles
- Peak Hour Percentage: 10%
- Peak Hour Volume: 204 vehicles
- Vehicle Speed: 40 mph
- Near/Far Lane Distance: 12 feet

Site Data

- **Barrier Height: 0.0 feet**
- Barrier Type (0-Wall, 1-Berm): 0.0
- Centerline Dist. to Barrier: 100.0 feet
- Centerline Dist. to Observer: 100.0 feet
- Barrier Distance to Observer: 0.0 feet
- Observer Height (Above Pad): 5.0 feet
- Pad Elevation: 0.0 feet
- Road Elevation: 0.0 feet
- Road Grade: 0.0%
- Left View: -90.0 degrees
- Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

- Autos: 15
- Medium Trucks (2 Axles): 15
- Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

- Autos: 0.000
- Medium Trucks: 2.297
- Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

- Autos: 99.945
- Medium Trucks: 99.856
- Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-8.34	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-25.58	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-29.54	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.4	50.5	48.7	42.6	51.3	51.9
Medium Trucks:	46.3	44.8	38.5	36.9	45.4	45.6
Heavy Trucks:	47.6	46.2	37.2	38.4	46.8	46.9
Vehicle Noise:	54.4	52.6	49.4	44.8	53.3	53.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	6	17	36	78
CNEL:	8	18	39	83

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing | Project Name: Moreno Valley Walmart
Road Name: Indian Street | Job Number: 8870
Road Segment: South of Harley Knox Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

- Average Daily Traffic (Adt): 4,344 vehicles
- Peak Hour Percentage: 10%
- Peak Hour Volume: 434 vehicles
- Vehicle Speed: 55 mph
- Near/Far Lane Distance: 36 feet

Site Data

- **Barrier Height: 0.0 feet**
- Barrier Type (0-Wall, 1-Berm): 0.0
- Centerline Dist. to Barrier: 100.0 feet
- Centerline Dist. to Observer: 100.0 feet
- Barrier Distance to Observer: 0.0 feet
- Observer Height (Above Pad): 5.0 feet
- Pad Elevation: 0.0 feet
- Road Elevation: 0.0 feet
- Road Grade: 0.0%
- Left View: -90.0 degrees
- Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

- Autos: 15
- Medium Trucks (2 Axles): 15
- Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

- Autos: 0.000
- Medium Trucks: 2.297
- Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

- Autos: 98.494
- Medium Trucks: 96.404
- Heavy Trucks: 96.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-6.44	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-23.68	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-27.64	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.6	57.7	56.0	49.9	58.5	59.1
Medium Trucks:	53.0	51.5	45.1	43.6	52.1	52.3
Heavy Trucks:	53.0	51.6	42.6	43.8	52.2	52.3
Vehicle Noise:	61.2	59.4	56.5	51.6	60.2	60.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	22	48	102	221
CNEL:	24	51	110	238

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing | Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard | Job Number: 8870
Road Segment: North of SR-60 WB Ramps

SITE SPECIFIC INPUT DATA

Highway Data

- Average Daily Traffic (Adt): 30,480 vehicles
- Peak Hour Percentage: 10%
- Peak Hour Volume: 3,048 vehicles
- Vehicle Speed: 55 mph
- Near/Far Lane Distance: 98 feet

Site Data

- **Barrier Height: 0.0 feet**
- Barrier Type (0-Wall, 1-Berm): 0.0
- Centerline Dist. to Barrier: 100.0 feet
- Centerline Dist. to Observer: 100.0 feet
- Barrier Distance to Observer: 0.0 feet
- Observer Height (Above Pad): 5.0 feet
- Pad Elevation: 0.0 feet
- Road Elevation: 0.0 feet
- Road Grade: 0.0%
- Left View: -90.0 degrees
- Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

- Autos: 15
- Medium Trucks (2 Axles): 15
- Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

- Autos: 0.000
- Medium Trucks: 2.297
- Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

- Autos: 87.316
- Medium Trucks: 87.214
- Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.02	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.22	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.18	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.9	67.0	65.2	59.1	67.8	68.4
Medium Trucks:	62.3	60.7	54.4	52.8	61.3	61.5
Heavy Trucks:	62.3	60.9	51.8	53.1	61.4	61.6
Vehicle Noise:	70.4	68.7	65.7	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	91	197	424	913
CNEL:	98	212	456	982

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing | Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard | Job Number: 8870
Road Segment: SR-60 WB Ramps to Sunnymead Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

- Average Daily Traffic (Adt): 33,072 vehicles
- Peak Hour Percentage: 10%
- Peak Hour Volume: 3,307 vehicles
- Vehicle Speed: 55 mph
- Near/Far Lane Distance: 98 feet

Site Data

- **Barrier Height: 0.0 feet**
- Barrier Type (0-Wall, 1-Berm): 0.0
- Centerline Dist. to Barrier: 100.0 feet
- Centerline Dist. to Observer: 100.0 feet
- Barrier Distance to Observer: 0.0 feet
- Observer Height (Above Pad): 5.0 feet
- Pad Elevation: 0.0 feet
- Road Elevation: 0.0 feet
- Road Grade: 0.0%
- Left View: -90.0 degrees
- Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

- Autos: 15
- Medium Trucks (2 Axles): 15
- Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

- Autos: 0.000
- Medium Trucks: 2.297
- Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

- Autos: 87.316
- Medium Trucks: 87.214
- Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.37	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-14.87	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.82	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.2	67.3	65.6	59.5	68.1	68.7
Medium Trucks:	62.6	61.1	54.7	53.2	61.7	61.9
Heavy Trucks:	62.6	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	70.8	69.0	66.1	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	98	208	447	964
CNEL:	104	223	481	1,037

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing | Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard | Job Number: 8870
Road Segment: South of Sunnymead Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

- Average Daily Traffic (Adt): 24,324 vehicles
- Peak Hour Percentage: 10%
- Peak Hour Volume: 2,432 vehicles
- Vehicle Speed: 55 mph
- Near/Far Lane Distance: 36 feet

Site Data

- **Barrier Height: 0.0 feet**
- Barrier Type (0-Wall, 1-Berm): 0.0
- Centerline Dist. to Barrier: 100.0 feet
- Centerline Dist. to Observer: 100.0 feet
- Barrier Distance to Observer: 0.0 feet
- Observer Height (Above Pad): 5.0 feet
- Pad Elevation: 0.0 feet
- Road Elevation: 0.0 feet
- Road Grade: 0.0%
- Left View: -90.0 degrees
- Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

- Autos: 15
- Medium Trucks (2 Axles): 15
- Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

- Autos: 0.000
- Medium Trucks: 2.297
- Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

- Autos: 98.494
- Medium Trucks: 96.404
- Heavy Trucks: 96.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.04	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.20	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.16	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.1	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	60.5	59.0	52.6	51.1	59.5	59.8
Heavy Trucks:	60.5	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	68.7	66.9	64.0	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	70	150	323	696
CNEL:	75	161	348	749

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Perris Boulevard
Road Segment: North of Eucalyptus Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 20,160 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,016 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.22	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.02	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.97	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.3	64.4	62.6	56.6	65.2	65.8
Medium Trucks:	59.7	58.2	51.6	50.3	58.7	59.0
Heavy Trucks:	59.7	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	67.9	66.1	63.1	58.3	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	61	132	285	614
CNEL:	66	142	307	661

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Perris Boulevard
Road Segment: South of Eucalyptus Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 18,168 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,817 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.23	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.47	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.42	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.8	63.9	62.2	56.1	64.7	65.3
Medium Trucks:	59.2	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	59.3	57.8	48.8	50.1	58.4	58.5
Vehicle Noise:	67.4	65.6	62.7	57.8	66.4	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	57	123	266	573
CNEL:	62	133	286	617

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Perris Boulevard
Road Segment: North of Cottonwood Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 22,800 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,280 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.76	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.48	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.44	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	64.9	63.2	57.1	65.7	66.3
Medium Trucks:	60.2	58.7	52.3	50.8	59.3	59.5
Heavy Trucks:	60.2	58.8	49.8	51.0	59.4	59.5
Vehicle Noise:	68.4	66.6	63.7	58.8	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	67	144	308	667
CNEL:	72	155	333	717

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Perris Boulevard
Road Segment: South of Cottonwood Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 20,260 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,026 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.25	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.98	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.95	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.3	64.4	62.6	56.6	65.2	65.8
Medium Trucks:	59.7	58.2	51.6	50.3	58.7	59.0
Heavy Trucks:	59.7	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	67.9	66.1	63.2	58.3	66.9	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	62	133	286	617
CNEL:	66	143	308	663

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Perris Boulevard
Road Segment: North of Alessandro Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 18,036 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,804 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.26	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.50	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.46	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.8	63.9	62.1	56.1	64.7	65.3
Medium Trucks:	59.2	57.7	51.3	49.8	58.2	58.5
Heavy Trucks:	59.2	57.8	48.8	50.0	58.4	58.5
Vehicle Noise:	67.4	65.6	62.7	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	57	123	265	570
CNEL:	61	132	285	614

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Perris Boulevard
Road Segment: South of Alessandro Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 18,252 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,825 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.21	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.45	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.40	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.9	64.0	62.2	56.1	64.8	65.4
Medium Trucks:	59.2	57.7	51.4	49.9	58.3	58.5
Heavy Trucks:	59.3	57.9	48.8	50.1	58.4	58.6
Vehicle Noise:	67.4	65.7	62.7	57.8	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	57	124	287	575
CNEL:	62	133	287	618

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Perris Boulevard
Road Segment: North of Cactus Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 16,968 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,697 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.53	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.76	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.72	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.5	63.6	61.9	55.8	64.4	65.0
Medium Trucks:	58.9	57.4	51.1	49.5	58.0	58.2
Heavy Trucks:	59.0	57.5	48.5	49.8	58.1	58.2
Vehicle Noise:	67.1	65.4	62.4	57.5	66.1	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	55	118	254	548
CNEL:	59	127	273	589

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Perris Boulevard
Road Segment: South of Cactus Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 17,568 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,757 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.38	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.61	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.57	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.5	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.9	58.4	52.0	50.4	58.9	59.1
Heavy Trucks:	59.9	58.5	49.4	50.7	59.0	59.2
Vehicle Noise:	68.0	66.3	63.3	58.5	67.0	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	63	136	293	632
CNEL:	68	147	316	680

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Perris Boulevard
Road Segment: North of John F. Kennedy Drive

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 15,312 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,531 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.97	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.21	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.17	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.9	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	59.3	57.8	51.4	49.9	58.3	58.5
Heavy Trucks:	59.3	57.9	48.8	50.1	58.4	58.6
Vehicle Noise:	67.5	65.7	62.7	57.9	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	58	124	268	577
CNEL:	62	134	288	621

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Perris Boulevard
Road Segment: South of John F. Kennedy Drive

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 18,720 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,872 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.10	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.34	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.29	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.7	64.8	63.1	57.0	65.6	66.3
Medium Trucks:	60.1	58.6	52.3	50.7	59.2	59.4
Heavy Trucks:	60.2	58.8	49.7	51.0	59.3	59.4
Vehicle Noise:	68.3	66.6	63.6	58.7	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	66	142	306	660
CNEL:	71	153	329	710

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Perris Boulevard
Road Segment: North of Gentian Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 18,056 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,806 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.77	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.00	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.96	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.1	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	59.5	58.0	51.6	50.1	58.5	58.8
Heavy Trucks:	59.5	58.1	49.1	50.3	58.7	58.9
Vehicle Noise:	67.7	65.9	62.9	58.1	66.8	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	60	128	276	595
CNEL:	64	138	297	640

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Perris Boulevard
Road Segment: Gentian Avenue to Driveway 3

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 18,008 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,801 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.78	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.02	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.97	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.1	64.2	62.4	56.3	65.0	65.6
Medium Trucks:	59.5	58.0	51.6	50.0	58.5	58.7
Heavy Trucks:	59.5	58.1	49.0	50.3	58.6	58.8
Vehicle Noise:	67.6	65.9	62.9	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	59	128	276	594
CNEL:	64	138	297	639

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Perris Boulevard
Road Segment: Driveway 3 to Driveway 4

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,008 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,601 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	97.316
Medium Trucks:	97.214
Heavy Trucks:	97.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.76	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.02	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.97	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.1	64.2	62.4	56.3	65.0	65.6
Medium Trucks:	59.5	58.0	51.6	50.0	58.5	58.7
Heavy Trucks:	59.5	58.1	49.0	50.3	58.6	58.8
Vehicle Noise:	67.6	65.8	62.8	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	59	128	276	594
CNEL:	64	138	297	639

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Perris Boulevard
Road Segment: Driveway 4 to Santiago Drive

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,008 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,601 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	97.316
Medium Trucks:	97.214
Heavy Trucks:	97.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.76	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.02	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.97	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.1	64.2	62.4	56.3	65.0	65.6
Medium Trucks:	59.5	58.0	51.6	50.0	58.5	58.7
Heavy Trucks:	59.5	58.1	49.0	50.3	58.6	58.8
Vehicle Noise:	67.6	65.8	62.8	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	59	128	276	594
CNEL:	64	138	297	639

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Perris Boulevard
Road Segment: Santiago Drive to Iris Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,240 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,524 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	97.316
Medium Trucks:	97.214
Heavy Trucks:	97.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.76	-0.99	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.23	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.19	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.9	64.0	62.2	56.1	64.8	65.4
Medium Trucks:	59.2	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	59.3	57.9	48.8	50.1	58.4	58.6
Vehicle Noise:	67.4	65.7	62.7	57.8	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	56	124	267	575
CNEL:	62	133	287	619

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Perris Boulevard
Road Segment: South of Iris Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,044 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,604 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	97.316
Medium Trucks:	97.214
Heavy Trucks:	97.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.77	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.01	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.96	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.1	64.2	62.4	56.4	65.0	65.6
Medium Trucks:	59.5	58.0	51.6	50.1	58.5	58.7
Heavy Trucks:	59.5	58.1	49.0	50.3	58.7	58.9
Vehicle Noise:	67.7	65.9	62.8	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	60	128	276	595
CNEL:	64	138	297	640

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Perris Boulevard
Road Segment: North of Krameria Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,964 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,496 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	97.316
Medium Trucks:	97.214
Heavy Trucks:	97.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.16	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.40	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.35	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.7	63.8	62.0	56.0	64.6	65.2
Medium Trucks:	59.1	57.6	51.2	49.7	58.1	58.4
Heavy Trucks:	59.1	57.7	48.7	49.9	58.3	58.4
Vehicle Noise:	67.3	65.5	62.5	57.7	66.2	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	56	121	260	559
CNEL:	60	130	280	603

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Perris Boulevard
Road Segment: South of Krameria Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,540 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,554 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	97.316
Medium Trucks:	97.214
Heavy Trucks:	97.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.76	-0.91	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.15	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.10	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.9	64.0	62.3	56.2	64.8	65.4
Medium Trucks:	59.3	57.8	51.5	49.8	58.4	58.6
Heavy Trucks:	59.4	57.9	48.9	50.2	58.5	58.6
Vehicle Noise:	67.5	65.9	62.9	57.9	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	58	126	270	583
CNEL:	63	135	291	627

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Perris Boulevard
Road Segment: North of San Michele Road
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 16,776 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,678 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.58	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.81	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.77	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.3	64.4	62.6	56.6	65.2	65.8
Medium Trucks:	59.7	58.2	51.8	50.2	58.7	58.9
Heavy Trucks:	59.7	58.3	49.2	50.5	58.8	59.0
Vehicle Noise:	67.8	66.1	63.1	58.3	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	61	132	285	613
CNEL:	66	142	306	659

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Perris Boulevard
Road Segment: San Michele Road to Nandina Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 15,888 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,589 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.81	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.05	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.01	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.0	64.1	62.4	56.3	64.9	65.5
Medium Trucks:	59.4	57.9	51.6	50.0	58.5	58.7
Heavy Trucks:	59.5	58.0	49.0	50.3	58.6	58.7
Vehicle Noise:	67.6	65.9	62.9	58.0	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	59	127	274	591
CNEL:	64	137	295	636

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Perris Boulevard
Road Segment: South of Nandina Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 15,828 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,583 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.83	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.07	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.02	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.0	64.1	62.4	56.3	64.9	65.5
Medium Trucks:	59.4	57.9	51.5	50.0	58.5	58.7
Heavy Trucks:	59.4	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	67.6	65.9	62.9	58.0	66.6	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	59	127	274	590
CNEL:	63	137	294	634

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Perris Boulevard
Road Segment: North of Harley Knox Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 16,524 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,652 vehicles
Vehicle Speed: 45 mph
Near/Far Lane Distance: 24 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.403
Medium Trucks: 99.314
Heavy Trucks: 99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.23	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-17.01	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-20.96	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.9	61.0	59.2	53.2	61.8	62.4
Medium Trucks:	56.7	55.2	48.8	47.3	55.7	55.9
Heavy Trucks:	57.5	56.1	47.1	48.3	56.7	56.8
Vehicle Noise:	64.7	63.0	59.9	55.2	63.7	64.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	38	82	177	381
CNEL:	41	88	190	409

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Perris Boulevard
Road Segment: South of Harley Knox Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 15,156 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,516 vehicles
Vehicle Speed: 45 mph
Near/Far Lane Distance: 24 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.403
Medium Trucks: 99.314
Heavy Trucks: 99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.15	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-17.38	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-21.34	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.5	60.6	58.9	52.8	61.4	62.0
Medium Trucks:	56.3	54.8	48.4	46.9	55.3	55.6
Heavy Trucks:	57.1	55.7	46.7	47.9	56.3	56.4
Vehicle Noise:	64.4	62.6	59.5	54.8	63.3	63.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	36	78	167	360
CNEL:	39	83	179	386

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Perris Boulevard
Road Segment: North of Ramona Expressway
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 13,572 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,357 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.50	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.73	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.69	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.6	62.7	60.9	54.8	63.5	64.1
Medium Trucks:	58.0	56.4	50.1	48.5	57.0	57.2
Heavy Trucks:	58.0	56.6	47.5	48.8	57.1	57.3
Vehicle Noise:	66.1	64.4	61.4	56.6	65.1	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	47	102	219	472
CNEL:	51	109	236	508

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: South of Ramona Expressway

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 14,280 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,428 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.26	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.51	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.47	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.5	63.7	61.9	55.9	64.5	65.1
Medium Trucks:	59.0	57.5	51.1	49.5	58.0	58.2
Heavy Trucks:	59.0	57.6	48.5	49.8	58.1	58.3
Vehicle Noise:	67.1	65.4	62.4	57.6	66.1	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	55	119	256	551
CNEL:	59	128	275	592

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing — Project Name: Moreno Valley Walmart
Road Name: Kitching Street — Job Number: 8870
Road Segment: North of Cactus Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 8,276 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 828 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-4.85	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-22.08	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-26.04	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.2	59.3	57.6	51.5	60.1	60.7
Medium Trucks:	54.6	53.1	46.7	45.2	53.7	53.9
Heavy Trucks:	54.6	53.2	44.2	45.4	53.8	53.9
Vehicle Noise:	62.8	61.0	58.1	53.2	61.8	62.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	28	61	131	282
CNEL:	30	65	141	304

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing — Project Name: Moreno Valley Walmart
Road Name: Kitching Street — Job Number: 8870
Road Segment: South of Cactus Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 7,868 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 787 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.59	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-19.83	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-23.79	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.1	56.2	54.4	48.4	57.0	57.6
Medium Trucks:	52.1	50.6	44.2	42.7	51.1	51.4
Heavy Trucks:	53.4	52.0	42.9	44.2	52.5	52.7
Vehicle Noise:	60.1	58.4	55.1	50.6	59.1	59.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	19	40	87	187
CNEL:	20	43	93	201

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing — Project Name: Moreno Valley Walmart
Road Name: Kitching Street — Job Number: 8870
Road Segment: North of John F. Kennedy Drive

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 6,912 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 691 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-3.04	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-20.28	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-24.24	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.7	55.8	54.0	47.9	56.6	57.2
Medium Trucks:	51.6	50.1	43.6	42.2	50.7	50.9
Heavy Trucks:	52.9	51.5	42.5	43.7	52.1	52.2
Vehicle Noise:	59.7	57.9	54.7	50.1	58.6	59.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	17	38	81	175
CNEL:	19	40	87	187

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing — Project Name: Moreno Valley Walmart
Road Name: Kitching Street — Job Number: 8870
Road Segment: South of John F. Kennedy Drive

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 8,340 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 834 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.23	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-19.47	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-23.42	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.5	56.6	54.8	48.7	57.4	58.0
Medium Trucks:	52.4	50.9	44.6	43.0	51.5	51.7
Heavy Trucks:	53.6	52.3	43.3	44.6	52.9	53.0
Vehicle Noise:	60.5	58.7	55.5	50.9	59.5	59.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	20	43	92	198
CNEL:	21	46	99	212

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing — Project Name: Moreno Valley Walmart
Road Name: Kitching Street — Job Number: 8870
Road Segment: North of Iris Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 5,904 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 590 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-5.11	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-22.35	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-26.31	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.0	59.1	57.3	51.2	59.9	60.5
Medium Trucks:	54.3	52.8	46.5	44.9	53.4	53.6
Heavy Trucks:	54.4	53.0	43.9	45.2	53.5	53.7
Vehicle Noise:	62.5	60.6	57.0	52.9	61.5	62.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	27	58	126	271
CNEL:	29	63	135	291

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing — Project Name: Moreno Valley Walmart
Road Name: Kitching Street — Job Number: 8870
Road Segment: South of Iris Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 7,069 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 707 vehicles
Vehicle Speed: 45 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.46	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-20.70	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-24.65	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.3	57.4	55.6	49.6	58.2	58.8
Medium Trucks:	53.0	51.5	45.2	43.6	52.1	52.3
Heavy Trucks:	53.8	52.5	43.4	44.7	53.0	53.2
Vehicle Noise:	61.1	59.4	56.2	51.5	60.1	60.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	22	47	101	216
CNEL:	23	50	109	234

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing — Project Name: Moreno Valley Walmart
Road Name: Lasselle Street — Job Number: 8870
Road Segment: North of Iris Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 18,276 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,828 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.20	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.44	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.40	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.8	64.0	62.2	56.1	64.8	65.4
Medium Trucks:	59.2	57.7	51.4	49.8	58.3	58.5
Heavy Trucks:	59.3	57.9	48.8	50.1	58.4	58.6
Vehicle Noise:	67.4	65.7	62.7	57.8	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	58	124	267	575
CNEL:	62	133	287	619

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing — Project Name: Moreno Valley Walmart
Road Name: Lasselle Street — Job Number: 8870
Road Segment: South of Iris Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 26,292 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,629 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.38	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.86	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.82	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.4	65.5	63.8	57.7	66.3	66.9
Medium Trucks:	60.8	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.9	59.4	50.4	51.7	60.0	60.1
Vehicle Noise:	69.0	67.3	64.3	59.4	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	73	158	340	733
CNEL:	79	170	366	789

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — Project Name: Moreno Valley Walmart
Road Name: Sunnymead Boulevard — Job Number: 8870
Road Segment: Perris Boulevard to SR-60 EB On-Ramp

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 17,256 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,726 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.45	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.69	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.65	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.6	63.7	61.9	55.9	64.5	65.1
Medium Trucks:	59.0	57.5	51.1	49.6	58.0	58.3
Heavy Trucks:	59.0	57.6	48.6	49.8	58.2	58.3
Vehicle Noise:	67.2	65.4	62.5	57.6	66.1	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	55	119	257	554
CNEL:	60	128	277	596

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — Project Name: Moreno Valley Walmart
Road Name: Eucalyptus Avenue — Job Number: 8870
Road Segment: East of Perris Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 7,066 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 707 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.95	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-20.18	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-24.14	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.8	55.9	54.1	48.0	56.7	57.3
Medium Trucks:	51.7	50.2	43.9	42.3	50.8	51.0
Heavy Trucks:	53.0	51.6	42.6	43.8	52.2	52.3
Vehicle Noise:	59.8	58.0	54.8	50.2	58.7	59.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	18	38	82	177
CNEL:	19	41	88	190

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — Project Name: Moreno Valley Walmart
Road Name: Cottonwood Avenue — Job Number: 8870
Road Segment: West of Indian Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 9,912 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 991 vehicles
Vehicle Speed: 45 mph
Near/Far Lane Distance: 24 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.403
Medium Trucks: 99.314
Heavy Trucks: 99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.98	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-19.23	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-23.18	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.7	58.8	57.0	51.0	59.6	60.2
Medium Trucks:	54.4	52.9	46.6	45.0	53.5	53.7
Heavy Trucks:	55.3	53.9	44.8	46.1	54.4	54.6
Vehicle Noise:	62.5	60.8	57.6	53.0	61.5	62.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	27	58	126	271
CNEL:	29	63	135	291

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — Project Name: Moreno Valley Walmart
Road Name: Cottonwood Avenue — Job Number: 8870
Road Segment: East of Indian Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 8,220 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 822 vehicles
Vehicle Speed: 45 mph
Near/Far Lane Distance: 24 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.403
Medium Trucks: 99.314
Heavy Trucks: 99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.80	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-20.04	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-24.00	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.9	58.0	56.2	50.2	58.8	59.4
Medium Trucks:	53.8	52.1	45.8	44.2	52.7	52.9
Heavy Trucks:	54.5	53.1	44.0	45.3	53.6	53.8
Vehicle Noise:	61.7	60.0	56.8	52.1	60.7	61.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	24	52	111	239
CNEL:	26	55	119	257

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — Project Name: Moreno Valley Walmart
Road Name: Cottonwood Avenue — Job Number: 8870
Road Segment: West of Perris Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 7,286 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 729 vehicles
Vehicle Speed: 45 mph
Near/Far Lane Distance: 24 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.403
Medium Trucks: 99.314
Heavy Trucks: 99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.33	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-20.56	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-24.52	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.4	57.5	55.7	49.6	58.3	58.9
Medium Trucks:	53.1	51.6	45.2	43.7	52.2	52.4
Heavy Trucks:	54.0	52.5	43.5	44.7	53.1	53.2
Vehicle Noise:	61.2	59.4	56.3	51.6	60.2	60.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	22	48	103	221
CNEL:	24	51	110	237

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — Project Name: Moreno Valley Walmart
Road Name: Cottonwood Avenue — Job Number: 8870
Road Segment: East of Perris Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 7,956 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 796 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.43	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-19.67	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-23.69	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.3	56.4	54.6	48.5	57.2	57.8
Medium Trucks:	52.2	50.7	44.4	42.8	51.3	51.5
Heavy Trucks:	53.6	52.1	43.1	44.3	52.7	52.8
Vehicle Noise:	60.3	58.5	55.3	50.7	59.3	59.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	19	41	89	192
CNEL:	21	44	95	206

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — Project Name: Moreno Valley Walmart
Road Name: Alessandro Boulevard — Job Number: 8870
Road Segment: West of Heacock Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 27,697 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,770 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.60	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.64	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.59	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.4	66.5	64.8	58.7	67.4	68.0
Medium Trucks:	61.8	60.3	54.0	52.4	60.9	61.1
Heavy Trucks:	61.9	60.5	51.4	52.7	61.0	61.1
Vehicle Noise:	70.0	68.3	65.3	60.4	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	86	184	397	856
CNEL:	92	198	428	921

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — Project Name: Moreno Valley Walmart
Road Name: Alessandro Boulevard — Job Number: 8870
Road Segment: East of Heacock Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 26,677 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,668 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.44	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.80	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.76	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.3	66.4	64.6	58.6	67.2	67.8
Medium Trucks:	61.7	60.2	53.8	52.3	60.7	61.0
Heavy Trucks:	61.7	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	69.9	68.1	65.1	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	84	180	388	835
CNEL:	90	194	417	898

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — Project Name: Moreno Valley Walmart
Road Name: Alessandro Boulevard — Job Number: 8870
Road Segment: West of Indian Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 24,098 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,410 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.00	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.24	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.20	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.8	65.9	64.2	58.1	66.7	67.4
Medium Trucks:	61.2	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	61.3	59.8	50.8	52.1	60.4	60.5
Vehicle Noise:	69.4	67.7	64.7	59.6	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	78	168	362	780
CNEL:	84	181	390	840

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Alessandro Boulevard
Road Segment: East of Indian Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 23,606 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,361 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.91	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.33	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.29	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.8	65.9	64.1	58.0	66.7	67.3
Medium Trucks:	61.1	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	61.2	59.8	50.7	52.0	60.3	60.5
Vehicle Noise:	69.3	67.6	64.6	59.7	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	77	166	357	770
CNEL:	83	178	384	828

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Alessandro Boulevard
Road Segment: West of Perris Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 22,826 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,283 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.76	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.48	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.43	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.6	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	61.0	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	61.0	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	69.2	67.4	64.5	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	75	162	349	753
CNEL:	81	174	376	810

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Alessandro Boulevard
Road Segment: East of Perris Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 18,288 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,829 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.20	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.44	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.40	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.9	64.0	62.2	56.1	64.8	65.4
Medium Trucks:	59.3	57.7	51.4	49.9	58.3	58.5
Heavy Trucks:	59.3	57.9	48.8	50.1	58.4	58.6
Vehicle Noise:	67.4	65.7	62.7	57.8	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	58	124	267	576
CNEL:	62	133	287	619

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Cactus Avenue
Road Segment: West of I-215 Freeway

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 12,672 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,267 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.79	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.03	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.99	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.3	62.4	60.6	54.5	63.2	63.8
Medium Trucks:	57.7	56.1	49.8	48.2	56.7	56.9
Heavy Trucks:	57.7	56.3	47.2	48.5	56.8	57.0
Vehicle Noise:	65.8	64.1	61.1	56.3	64.8	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	45	97	209	451
CNEL:	48	104	225	485

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Cactus Avenue
Road Segment: I-215 SB Ramps to I-215 NB Ramps

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 22,740 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,274 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.75	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.49	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.45	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	64.9	63.1	57.1	65.7	66.3
Medium Trucks:	60.2	58.7	52.3	50.8	59.2	59.5
Heavy Trucks:	60.2	58.8	49.8	51.0	59.4	59.5
Vehicle Noise:	68.4	66.6	63.7	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	67	143	309	666
CNEL:	72	154	332	716

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Cactus Avenue
Road Segment: East of I-215 NB Ramps

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 34,932 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 3,493 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.61	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-14.63	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.58	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.7	66.8	65.0	59.0	67.6	68.2
Medium Trucks:	62.1	60.6	54.2	52.6	61.1	61.3
Heavy Trucks:	62.1	60.7	51.6	52.9	61.2	61.4
Vehicle Noise:	70.2	68.5	65.5	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	89	191	411	886
CNEL:	95	205	442	953

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Cactus Avenue
Road Segment: West of Elsworth Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 34,380 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 3,438 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.54	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-14.70	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.66	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.5	66.7	64.9	58.9	67.5	68.1
Medium Trucks:	62.0	60.5	54.1	52.6	61.0	61.3
Heavy Trucks:	62.0	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	70.2	68.4	65.5	60.6	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	88	189	407	877
CNEL:	94	203	438	943

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Cactus Avenue
Road Segment: East of Elsworth Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 30,708 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 3,071 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.05	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.19	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.14	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.9	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	62.3	60.8	54.4	52.9	61.3	61.6
Heavy Trucks:	62.3	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	70.5	68.7	65.8	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	92	198	426	917
CNEL:	99	213	458	987

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Cactus Avenue
Road Segment: West of Frederick Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 29,798 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,980 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.92	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.32	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.28	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.8	66.9	65.1	59.0	67.7	68.3
Medium Trucks:	62.2	60.6	54.3	52.7	61.2	61.4
Heavy Trucks:	62.2	60.8	51.7	53.0	61.3	61.5
Vehicle Noise:	70.3	68.6	65.6	60.8	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	90	194	417	899
CNEL:	97	208	449	967

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Cactus Avenue
Road Segment: East of Frederick Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 33,024 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 3,302 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.37	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-14.87	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.83	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.2	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	62.6	61.1	54.7	53.2	61.7	61.9
Heavy Trucks:	62.6	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	70.8	69.0	66.1	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	96	207	447	963
CNEL:	104	223	481	1,036

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Cactus Avenue
Road Segment: West of Graham Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 32,018 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 3,202 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.23	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.01	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.96	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.1	67.2	65.4	59.4	68.0	68.6
Medium Trucks:	62.5	61.0	54.6	53.1	61.5	61.7
Heavy Trucks:	62.5	61.1	52.0	53.3	61.7	61.8
Vehicle Noise:	70.7	68.9	65.9	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	94	203	438	943
CNEL:	101	219	471	1,015

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Cactus Avenue
Road Segment: East of Graham Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 26,714 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,671 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.44	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.79	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.75	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.3	66.4	64.6	58.6	67.2	67.8
Medium Trucks:	61.7	60.2	53.8	52.3	60.7	61.0
Heavy Trucks:	61.7	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	69.9	68.1	65.2	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	84	180	388	836
CNEL:	90	194	417	899

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — *Project Name:* Moreno Valley Walmart
Road Name: Cactus Avenue — *Job Number:* 8870
Road Segment: West of Heacock Street

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**	
Average Daily Traffic (Adt):	26,594 vehicles	Autos:	15
Peak Hour Percentage:	10%	Medium Trucks (2 Axles):	15
Peak Hour Volume:	2,659 vehicles	Heavy Trucks (3+ Axles):	15
Vehicle Speed:	55 mph		
Near/Far Lane Distance:	98 feet		
Site Data			
Barrier Height:	**0.0 feet**		
Barrier Type (0-Wall, 1-Berm):	0.0		
Centerline Dist. to Barrier:	100.0 feet		
Centerline Dist. to Observer:	100.0 feet		
Barrier Distance to Observer:	0.0 feet		
Observer Height (Above Pad):	5.0 feet		
Pad Elevation:	0.0 feet		
Road Elevation:	0.0 feet		
Road Grade:	0.0%		
Left View:	-90.0 degrees		
Right View:	90.0 degrees		

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.43	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.81	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.77	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.3	66.4	64.6	58.6	67.2	67.8
Medium Trucks:	61.7	60.2	53.8	52.2	60.7	60.9
Heavy Trucks:	61.7	60.3	51.2	52.5	60.8	61.0
Vehicle Noise:	69.9	68.1	65.1	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	83	180	387	833
CNEL:	90	193	416	897

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — *Project Name:* Moreno Valley Walmart
Road Name: Cactus Avenue — *Job Number:* 8870
Road Segment: East of Heacock Street

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**	
Average Daily Traffic (Adt):	18,514 vehicles	Autos:	15
Peak Hour Percentage:	10%	Medium Trucks (2 Axles):	15
Peak Hour Volume:	1,851 vehicles	Heavy Trucks (3+ Axles):	15
Vehicle Speed:	55 mph		
Near/Far Lane Distance:	36 feet		
Site Data			
Barrier Height:	**0.0 feet**		
Barrier Type (0-Wall, 1-Berm):	0.0		
Centerline Dist. to Barrier:	100.0 feet		
Centerline Dist. to Observer:	100.0 feet		
Barrier Distance to Observer:	0.0 feet		
Observer Height (Above Pad):	5.0 feet		
Pad Elevation:	0.0 feet		
Road Elevation:	0.0 feet		
Road Grade:	0.0%		
Left View:	-90.0 degrees		
Right View:	90.0 degrees		

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.84	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.88	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.84	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.4	63.5	61.8	55.7	64.3	64.9
Medium Trucks:	58.8	57.3	50.9	49.4	57.9	58.1
Heavy Trucks:	58.8	57.4	48.4	49.6	58.0	58.1
Vehicle Noise:	67.0	65.2	62.3	57.4	66.0	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	54	116	250	538
CNEL:	58	125	269	579

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — *Project Name:* Moreno Valley Walmart
Road Name: Cactus Avenue — *Job Number:* 8870
Road Segment: West of Indian Street

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**	
Average Daily Traffic (Adt):	16,048 vehicles	Autos:	15
Peak Hour Percentage:	10%	Medium Trucks (2 Axles):	15
Peak Hour Volume:	1,605 vehicles	Heavy Trucks (3+ Axles):	15
Vehicle Speed:	55 mph		
Near/Far Lane Distance:	36 feet		
Site Data			
Barrier Height:	**0.0 feet**		
Barrier Type (0-Wall, 1-Berm):	0.0		
Centerline Dist. to Barrier:	100.0 feet		
Centerline Dist. to Observer:	100.0 feet		
Barrier Distance to Observer:	0.0 feet		
Observer Height (Above Pad):	5.0 feet		
Pad Elevation:	0.0 feet		
Road Elevation:	0.0 feet		
Road Grade:	0.0%		
Left View:	-90.0 degrees		
Right View:	90.0 degrees		

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.77	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.01	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.98	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.3	63.4	61.6	55.6	64.2	64.8
Medium Trucks:	58.7	57.2	50.8	49.3	57.7	58.0
Heavy Trucks:	58.7	57.3	48.3	49.5	57.9	58.0
Vehicle Noise:	66.9	65.1	62.2	57.3	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	53	114	245	528
CNEL:	57	122	263	568

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — *Project Name:* Moreno Valley Walmart
Road Name: Cactus Avenue — *Job Number:* 8870
Road Segment: East of Indian Street

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**	
Average Daily Traffic (Adt):	17,162 vehicles	Autos:	15
Peak Hour Percentage:	10%	Medium Trucks (2 Axles):	15
Peak Hour Volume:	1,716 vehicles	Heavy Trucks (3+ Axles):	15
Vehicle Speed:	55 mph		
Near/Far Lane Distance:	36 feet		
Site Data			
Barrier Height:	**0.0 feet**		
Barrier Type (0-Wall, 1-Berm):	0.0		
Centerline Dist. to Barrier:	100.0 feet		
Centerline Dist. to Observer:	100.0 feet		
Barrier Distance to Observer:	0.0 feet		
Observer Height (Above Pad):	5.0 feet		
Pad Elevation:	0.0 feet		
Road Elevation:	0.0 feet		
Road Grade:	0.0%		
Left View:	-90.0 degrees		
Right View:	90.0 degrees		

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.48	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.72	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.67	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.6	63.7	61.9	55.9	64.5	65.1
Medium Trucks:	59.0	57.5	51.1	49.6	58.0	58.3
Heavy Trucks:	59.0	57.6	48.6	49.8	58.2	58.3
Vehicle Noise:	67.2	65.4	62.4	57.6	66.1	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	55	119	256	552
CNEL:	59	128	275	594

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — *Project Name:* Moreno Valley Walmart
Road Name: Cactus Avenue — *Job Number:* 8870
Road Segment: West of Perris Boulevard

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**	
Average Daily Traffic (Adt):	14,834 vehicles	Autos:	15
Peak Hour Percentage:	10%	Medium Trucks (2 Axles):	15
Peak Hour Volume:	1,483 vehicles	Heavy Trucks (3+ Axles):	15
Vehicle Speed:	55 mph		
Near/Far Lane Distance:	36 feet		
Site Data			
Barrier Height:	**0.0 feet**		
Barrier Type (0-Wall, 1-Berm):	0.0		
Centerline Dist. to Barrier:	100.0 feet		
Centerline Dist. to Observer:	100.0 feet		
Barrier Distance to Observer:	0.0 feet		
Observer Height (Above Pad):	5.0 feet		
Pad Elevation:	0.0 feet		
Road Elevation:	0.0 feet		
Road Grade:	0.0%		
Left View:	-90.0 degrees		
Right View:	90.0 degrees		

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.11	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.35	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.30	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.0	63.1	61.3	55.2	63.9	64.5
Medium Trucks:	58.3	56.8	50.5	48.9	57.4	57.6
Heavy Trucks:	58.4	57.0	47.9	49.2	57.5	57.7
Vehicle Noise:	66.5	64.8	61.8	56.9	65.5	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	108	232	501
CNEL:	54	116	250	539

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — *Project Name:* Moreno Valley Walmart
Road Name: Cactus Avenue — *Job Number:* 8870
Road Segment: East of Perris Boulevard

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS	
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**	
Average Daily Traffic (Adt):	14,064 vehicles	Autos:	15
Peak Hour Percentage:	10%	Medium Trucks (2 Axles):	15
Peak Hour Volume:	1,406 vehicles	Heavy Trucks (3+ Axles):	15
Vehicle Speed:	55 mph		
Near/Far Lane Distance:	36 feet		
Site Data			
Barrier Height:	**0.0 feet**		
Barrier Type (0-Wall, 1-Berm):	0.0		
Centerline Dist. to Barrier:	100.0 feet		
Centerline Dist. to Observer:	100.0 feet		
Barrier Distance to Observer:	0.0 feet		
Observer Height (Above Pad):	5.0 feet		
Pad Elevation:	0.0 feet		
Road Elevation:	0.0 feet		
Road Grade:	0.0%		
Left View:	-90.0 degrees		
Right View:	90.0 degrees		

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.34	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.58	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.54	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.7	62.8	61.1	55.0	63.6	64.2
Medium Trucks:	58.1	56.6	50.2	48.7	57.2	57.4
Heavy Trucks:	58.1	56.7	47.7	48.9	57.3	57.4
Vehicle Noise:	66.3	64.5	61.6	56.7	65.3	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	48	104	224	483
CNEL:	52	112	241	520

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Cactus Avenue
Road Segment: East of Kitching Street

Project Name: Moreno Valley Wslmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	11,244 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	1,124 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-2.31	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.55	-4.51	-1.20	-4.66	0.000	0.000
Heavy Trucks:	86.40	-23.51	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.7	61.8	60.1	54.0	62.7	63.3
Medium Trucks:	57.1	55.8	49.3	47.7	56.2	56.4
Heavy Trucks:	57.2	55.8	48.7	48.0	56.3	56.4
Vehicle Noise:	65.9	63.6	60.6	55.7	64.3	64.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	42	90	193	416
CNEL:	45	96	206	446

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: John F. Kennedy Drive
Road Segment: West of Heacock Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	8,136 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	814 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-3.72	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-20.96	-4.51	-1.20	-4.59	0.000	0.000
Heavy Trucks:	86.40	-24.91	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.3	60.4	58.7	52.6	61.2	61.9
Medium Trucks:	55.7	54.2	47.9	46.3	54.8	55.0
Heavy Trucks:	55.8	54.3	45.3	46.8	54.9	55.0
Vehicle Noise:	63.9	62.0	58.2	54.3	62.8	63.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	34	72	156	335
CNEL:	36	78	168	361

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: John F. Kennedy Drive
Road Segment: East of Heacock Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	10,140 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	1,014 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-2.76	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-20.00	-4.51	-1.20	-4.66	0.000	0.000
Heavy Trucks:	86.40	-23.96	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.3	61.4	59.8	53.8	62.2	62.8
Medium Trucks:	56.7	55.2	48.8	47.3	55.7	55.9
Heavy Trucks:	56.7	55.3	46.3	47.5	55.9	56.0
Vehicle Noise:	64.9	63.1	60.2	55.3	63.8	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	39	84	180	388
CNEL:	42	90	194	418

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: John F. Kennedy Drive
Road Segment: West of Indian Street

Project Name: Moreno Valley Wslmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	9,228 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	923 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-3.17	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-20.41	-4.51	-1.20	-4.66	0.000	0.000
Heavy Trucks:	86.40	-24.37	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.9	61.0	59.2	53.2	61.8	62.4
Medium Trucks:	56.9	54.8	48.4	46.9	55.3	55.6
Heavy Trucks:	56.9	54.8	45.8	47.1	55.5	55.6
Vehicle Noise:	64.5	62.7	59.8	54.9	63.4	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	36	79	169	365
CNEL:	39	85	182	392

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: John F. Kennedy Drive
Road Segment: East of Indian Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	9,492 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	949 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-3.05	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-20.29	-4.51	-1.20	-4.59	0.000	0.000
Heavy Trucks:	86.40	-24.24	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.0	61.1	59.3	53.3	61.9	62.5
Medium Trucks:	56.4	54.9	48.5	47.0	55.4	55.7
Heavy Trucks:	56.4	55.0	46.0	47.2	55.6	55.7
Vehicle Noise:	64.8	62.8	59.9	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	37	80	173	372
CNEL:	40	86	186	400

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: John F. Kennedy Drive
Road Segment: West of Perris Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	9,530 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	953 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-3.03	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-20.27	-4.51	-1.20	-4.66	0.000	0.000
Heavy Trucks:	86.40	-24.23	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.0	61.1	59.4	53.3	61.9	62.5
Medium Trucks:	56.4	54.9	48.6	47.0	55.5	55.7
Heavy Trucks:	56.5	55.0	46.0	47.2	55.6	55.7
Vehicle Noise:	64.6	62.9	59.9	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	37	80	173	373
CNEL:	40	86	186	401

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: John F. Kennedy Drive
Road Segment: East of Perris Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	10,106 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	1,011 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.76	-2.76	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-26.02	-4.51	-1.20	-4.66	0.000	0.000
Heavy Trucks:	86.40	-28.97	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.3	61.4	59.6	53.6	62.2	62.8
Medium Trucks:	58.7	55.2	48.8	47.3	55.7	56.0
Heavy Trucks:	58.7	55.3	48.3	47.5	55.9	56.0
Vehicle Noise:	64.8	63.1	60.1	55.3	63.9	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	99	84	180	386
CNEL:	42	90	194	417

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: John F. Kennedy Drive
Road Segment: West of Kitching Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	9,242 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	924 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-3.16	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-26.40	-4.51	-1.20	-4.66	0.000	0.000
Heavy Trucks:	86.40	-29.36	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.9	61.0	59.2	53.2	61.9	62.4
Medium Trucks:	58.3	54.8	48.4	46.9	55.3	55.8
Heavy Trucks:	58.3	54.9	45.9	47.1	55.5	55.6
Vehicle Noise:	64.5	62.7	59.8	54.9	63.4	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	97	79	170	365
CNEL:	98	85	182	393

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: John F. Kennedy Drive
Road Segment: East of Kitching Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	8,694 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	608 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.76	-4.88	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-28.22	-4.51	-1.20	-4.66	0.000	0.000
Heavy Trucks:	86.40	-28.17	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.1	59.2	57.4	51.4	60.0	60.6
Medium Trucks:	54.5	53.0	46.6	45.1	53.5	53.7
Heavy Trucks:	54.5	53.1	44.0	45.3	53.7	53.8
Vehicle Noise:	62.7	60.9	57.9	53.1	61.6	62.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	28	60	128	276
CNEL:	30	64	138	297

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Gentian Avenue
Road Segment: West of Indian Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	1,880 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	188 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	45 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-8.70	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-26.94	-4.51	-1.20	-4.66	0.000	0.000
Heavy Trucks:	84.25	-30.88	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.0	51.1	49.4	43.3	51.9	52.5
Medium Trucks:	48.8	45.3	38.9	37.4	45.8	46.1
Heavy Trucks:	47.6	46.2	37.2	38.4	46.0	46.9
Vehicle Noise:	54.8	53.1	50.0	45.3	53.9	54.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	8	18	39	84
CNEL:	9	19	42	90

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Gentian Avenue
Road Segment: East of Perris Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	2,160 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	216 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	40 mph	**Vehicle Mix**				
Near/Far Lane Distance:	12 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.945			
Road Grade:	0.0%	Medium Trucks:	98.856			
Left View:	-90.0 degrees	Heavy Trucks:	98.865			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-8.09	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-25.33	-4.51	-1.20	-4.66	0.000	0.000
Heavy Trucks:	82.99	-29.29	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.6	50.7	48.9	42.9	51.5	52.1
Medium Trucks:	46.6	45.1	38.7	37.2	45.8	45.9
Heavy Trucks:	47.9	46.5	37.4	38.7	47.0	47.2
Vehicle Noise:	54.8	52.9	49.8	45.1	53.6	54.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	8	17	37	81
CNEL:	9	19	40	86

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Santiago Drive
Road Segment: East of Perris Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	2,852 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	285 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	40 mph	**Vehicle Mix**				
Near/Far Lane Distance:	12 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.945			
Road Grade:	0.0%	Medium Trucks:	98.856			
Left View:	-90.0 degrees	Heavy Trucks:	98.865			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-7.20	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-24.44	-4.51	-1.20	-4.66	0.000	0.000
Heavy Trucks:	82.99	-28.40	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.5	51.8	49.8	43.8	52.4	53.0
Medium Trucks:	47.5	46.0	39.6	38.0	46.5	46.7
Heavy Trucks:	48.8	47.4	38.3	39.6	47.9	48.1
Vehicle Noise:	55.5	53.9	50.8	45.9	54.5	54.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	9	20	43	92
CNEL:	10	21	46	99

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Iris Avenue
Road Segment: West of Indian Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,032 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,003 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.43	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-18.66	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-22.62	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.3	57.4	55.6	49.6	58.2	58.8
Medium Trucks:	53.2	51.7	45.4	43.8	52.3	52.5
Heavy Trucks:	54.8	53.1	44.1	45.4	53.7	53.8
Vehicle Noise:	61.3	59.5	56.3	51.7	60.3	60.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	22	48	104	224
CNEL:	24	52	111	240

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Iris Avenue
Road Segment: East of Indian Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,888 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,289 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.72	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.96	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.91	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.3	62.4	60.7	54.6	63.2	63.8
Medium Trucks:	57.7	56.2	49.9	48.3	56.8	57.0
Heavy Trucks:	57.8	56.3	47.3	48.6	56.9	57.0
Vehicle Noise:	65.9	64.2	61.2	56.3	64.9	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	46	98	212	456
CNEL:	49	106	228	490

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Iris Avenue
Road Segment: West of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,566 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,257 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.83	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.07	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.02	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.2	62.3	60.6	54.5	63.1	63.7
Medium Trucks:	57.6	56.1	49.8	48.2	56.7	56.9
Heavy Trucks:	57.7	56.2	47.2	48.4	56.8	56.9
Vehicle Noise:	65.8	64.0	61.1	56.2	64.8	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	45	97	208	448
CNEL:	48	104	224	482

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Iris Avenue
Road Segment: East of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,612 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,661 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.62	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.86	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.81	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.4	63.5	61.8	55.7	64.3	65.0
Medium Trucks:	58.8	57.3	51.0	49.4	57.9	58.1
Heavy Trucks:	58.9	57.4	48.4	49.7	58.0	58.1
Vehicle Noise:	67.0	65.3	62.3	57.4	66.0	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	54	116	251	540
CNEL:	58	125	270	581

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Iris Avenue
Road Segment: West of Kitching Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,634 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,963 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.11	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.13	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.09	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.2	64.3	62.5	56.4	65.1	65.7
Medium Trucks:	59.6	58.1	51.7	50.1	58.6	58.8
Heavy Trucks:	59.6	58.2	49.1	50.4	58.7	58.9
Vehicle Noise:	67.7	66.0	63.0	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	60	130	280	604
CNEL:	65	140	301	649

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Iris Avenue
Road Segment: East of Kitching Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,262 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,926 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.318
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.02	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.21	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.17	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.9	65.0	63.2	57.2	65.8	66.4
Medium Trucks:	60.3	58.8	52.4	50.8	59.3	59.5
Heavy Trucks:	60.3	58.9	49.8	51.1	59.4	59.6
Vehicle Noise:	68.4	66.7	63.7	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	67	145	312	672
CNEL:	72	156	336	723

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Iris Avenue
Road Segment: West of Lasselle Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 17,293 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,729 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.44	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.68	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.64	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.4	64.5	62.7	56.7	65.3	65.9
Medium Trucks:	59.8	58.3	51.9	50.4	58.8	59.1
Heavy Trucks:	59.8	58.4	49.4	50.6	59.0	59.1
Vehicle Noise:	68.0	66.2	63.3	58.4	66.9	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	63	135	290	626
CNEL:	67	145	312	673

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Iris Avenue
Road Segment: East of Lasselle Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 19,789 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,979 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.14	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.10	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.06	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.0	65.1	63.3	57.3	65.9	66.5
Medium Trucks:	60.4	58.9	52.5	51.0	59.4	59.7
Heavy Trucks:	60.4	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	68.6	66.8	63.8	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	68	147	318	684
CNEL:	74	159	342	736

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Krameria Avenue
Road Segment: East of Indian Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 2,736 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 274 vehicles
Vehicle Speed: 45 mph
Near/Far Lane Distance: 24 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.403
Medium Trucks: 99.314
Heavy Trucks: 99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-7.58	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-24.82	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-28.77	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.1	53.2	51.4	45.4	54.0	54.6
Medium Trucks:	48.9	47.3	41.0	39.4	47.9	48.1
Heavy Trucks:	49.7	48.3	39.2	40.5	48.9	49.0
Vehicle Noise:	56.9	55.2	52.0	47.4	55.9	56.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	11	25	53	115
CNEL:	12	27	57	123

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Krameria Avenue
Road Segment: West of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 3,398 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 340 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-6.13	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-23.37	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-27.32	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.6	52.7	50.9	44.8	53.5	54.1
Medium Trucks:	48.5	47.0	40.7	39.1	47.6	47.8
Heavy Trucks:	49.9	48.4	39.4	40.7	49.0	49.1
Vehicle Noise:	56.6	54.8	51.6	47.0	55.6	56.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	11	23	51	109
CNEL:	12	25	54	117

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Krameria Avenue
Road Segment: East of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 7,752 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 775 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-3.93	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-21.17	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-25.12	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.1	60.2	58.5	52.4	61.0	61.6
Medium Trucks:	55.5	54.0	47.7	46.1	54.6	54.8
Heavy Trucks:	55.6	54.1	45.1	46.4	54.7	54.8
Vehicle Noise:	63.7	61.9	59.0	54.1	62.7	63.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	32	70	151	325
CNEL:	35	75	162	349

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Harley Knox Boulevard
Road Segment: West of Webster Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 9,588 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 959 vehicles
Vehicle Speed: 45 mph
Near/Far Lane Distance: 24 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.403
Medium Trucks: 99.314
Heavy Trucks: 99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.13	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-19.37	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-23.33	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.5	58.6	56.9	50.8	59.4	60.1
Medium Trucks:	54.3	52.8	46.4	44.9	53.3	53.6
Heavy Trucks:	55.2	53.7	44.7	45.9	54.3	54.4
Vehicle Noise:	62.4	60.6	57.5	52.6	61.4	61.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	27	57	123	265
CNEL:	28	61	132	285

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — Project Name: Moreno Valley Walmart
Road Name: Harley Knox Boulevard — Job Number: 8870
Road Segment: East of Webster Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,876 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	988 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.403
Medium Trucks:	99.314
Heavy Trucks:	99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.01	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-19.24	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-23.20	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.7	58.8	57.0	51.0	59.6	60.2
Medium Trucks:	54.4	52.9	46.6	45.0	53.5	53.7
Heavy Trucks:	55.3	53.9	44.8	46.1	54.4	54.6
Vehicle Noise:	62.5	60.8	57.6	52.9	61.5	61.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	27	58	126	271
CNEL:	29	63	135	290

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — Project Name: Moreno Valley Walmart
Road Name: Harley Knox Boulevard — Job Number: 8870
Road Segment: West of Indian Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,130 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,013 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-2.77	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-20.00	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.98	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.3	61.4	59.6	53.6	62.2	62.8
Medium Trucks:	56.7	55.2	48.8	47.3	55.7	56.0
Heavy Trucks:	56.7	55.3	46.3	47.5	55.9	56.0
Vehicle Noise:	64.9	63.1	60.2	55.3	63.8	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	39	84	180	388
CNEL:	42	90	194	418

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — Project Name: Moreno Valley Walmart
Road Name: Harley Knox Boulevard — Job Number: 8870
Road Segment: East of Indian Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,062 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	606 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-5.00	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-22.23	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-26.19	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.1	59.2	57.4	51.3	60.0	60.6
Medium Trucks:	54.5	52.9	46.6	45.0	53.5	53.7
Heavy Trucks:	54.5	53.1	44.0	45.3	53.6	53.8
Vehicle Noise:	62.6	60.9	57.9	53.1	61.6	62.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	28	59	128	276
CNEL:	30	64	138	297

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — Project Name: Moreno Valley Walmart
Road Name: Harley Knox Boulevard — Job Number: 8870
Road Segment: West of Perris Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,268 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	528 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.403
Medium Trucks:	99.314
Heavy Trucks:	99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-4.74	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-21.98	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-25.94	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.9	56.0	54.3	48.2	56.8	57.4
Medium Trucks:	51.7	50.2	43.6	42.3	50.7	51.0
Heavy Trucks:	52.5	51.1	42.1	43.3	51.7	51.8
Vehicle Noise:	59.8	58.0	54.9	50.2	58.7	59.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	18	38	82	176
CNEL:	19	41	88	191

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — Project Name: Moreno Valley Walmart
Road Name: Ramona Expressway — Job Number: 8870
Road Segment: West of Perris Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,812 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,881 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.77	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.47	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.42	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.6	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	62.0	60.5	54.1	52.6	61.1	61.3
Heavy Trucks:	62.0	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	70.2	68.4	65.5	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	88	189	408	879
CNEL:	95	204	439	946

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — Project Name: Moreno Valley Walmart
Road Name: Ramona Expressway — Job Number: 8870
Road Segment: East of Perris Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,465 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,547 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.24	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.00	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.96	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.1	66.2	64.4	58.4	67.0	67.6
Medium Trucks:	61.5	60.0	53.6	52.1	60.5	60.8
Heavy Trucks:	61.5	60.1	51.1	52.3	60.7	60.8
Vehicle Noise:	69.7	67.9	64.9	60.1	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	81	174	376	810
CNEL:	87	188	404	871

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Frederick Street
Road Segment: North of Cactus Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,984 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	598 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-5.07	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-22.31	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-26.26	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.0	59.1	57.3	51.3	59.9	60.5
Medium Trucks:	54.4	52.9	46.5	45.0	53.4	53.7
Heavy Trucks:	54.4	53.0	44.0	45.2	53.6	53.7
Vehicle Noise:	62.6	60.8	57.9	53.0	61.5	62.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	27	59	127	273
CNEL:	29	63	136	293

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Heacock Street
Road Segment: North of Alessandro Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,480 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,548 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.92	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.16	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.12	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.1	63.2	61.5	55.4	64.0	64.6
Medium Trucks:	58.5	57.0	50.7	49.1	57.6	57.8
Heavy Trucks:	58.6	57.1	48.1	49.4	57.7	57.8
Vehicle Noise:	66.7	65.0	62.0	57.1	65.7	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	52	111	239	515
CNEL:	55	119	257	554

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Heacock Street
Road Segment: North of Cactus Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,292 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,129 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-2.29	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.53	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.49	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.8	61.9	60.1	54.0	62.7	63.3
Medium Trucks:	57.2	55.6	49.3	47.7	56.2	56.4
Heavy Trucks:	57.2	55.8	46.7	48.0	56.3	56.5
Vehicle Noise:	65.3	63.6	60.6	55.8	64.3	64.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	42	90	194	417
CNEL:	45	97	208	449

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Indian Street
Road Segment: North of Cottonwood Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,909 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	791 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.845
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.46	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-19.70	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-23.65	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.2	56.3	54.6	48.5	57.1	57.7
Medium Trucks:	52.2	50.7	44.3	42.6	51.3	51.5
Heavy Trucks:	53.5	52.1	43.1	44.3	52.7	52.8
Vehicle Noise:	60.2	58.5	55.2	50.7	59.2	59.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	19	41	89	191
CNEL:	20	44	95	205

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Indian Street
Road Segment: North of Alessandro Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,776 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,078 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-2.50	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.74	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.69	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.6	61.7	59.9	53.8	62.5	63.1
Medium Trucks:	57.0	55.4	49.1	47.5	56.0	56.2
Heavy Trucks:	57.0	55.6	46.5	47.8	56.1	56.3
Vehicle Noise:	65.1	63.4	60.4	55.6	64.1	64.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	40	87	188	405
CNEL:	44	94	202	435

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Indian Street
Road Segment: North of Cactus Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,184 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,118 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-2.34	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.57	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.53	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.7	61.8	60.1	54.0	62.6	63.2
Medium Trucks:	57.1	55.6	49.2	47.7	56.2	56.4
Heavy Trucks:	57.2	55.7	46.7	47.9	56.3	56.4
Vehicle Noise:	65.3	63.5	60.6	55.7	64.3	64.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	41	89	192	415
CNEL:	45	96	207	448

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — Project Name: Moreno Valley Walmart
Road Name: Indian Street — Job Number: 8870
Road Segment: South of John F. Kennedy Drive

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 8,208 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 821 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-3.66	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-20.92	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-24.87	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.4	60.5	58.7	52.7	61.3	61.9
Medium Trucks:	55.8	54.3	47.9	46.4	54.8	55.1
Heavy Trucks:	55.8	54.4	45.3	46.6	55.0	55.1
Vehicle Noise:	64.0	62.2	59.2	54.4	62.9	63.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	34	73	157	337
CNEL:	36	78	168	363

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — Project Name: Moreno Valley Walmart
Road Name: Indian Street — Job Number: 8870
Road Segment: North of Gentian Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 8,060 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 806 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-3.81	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-20.85	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-24.81	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.1	55.2	53.4	47.4	56.0	56.6
Medium Trucks:	51.1	49.5	43.2	41.6	50.1	50.3
Heavy Trucks:	52.4	51.0	41.9	43.2	51.5	51.8
Vehicle Noise:	59.1	57.4	54.1	49.5	58.1	58.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	16	35	74	160
CNEL:	17	37	80	171

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — Project Name: Moreno Valley Walmart
Road Name: Indian Street — Job Number: 8870
Road Segment: South of Iris Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 4,452 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 445 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-4.95	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-22.19	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-26.15	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.7	53.8	52.1	46.0	54.6	55.3
Medium Trucks:	49.7	48.2	41.8	40.3	48.8	49.0
Heavy Trucks:	51.0	49.6	40.6	41.8	50.2	50.3
Vehicle Noise:	57.8	56.0	52.7	48.2	56.7	57.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	13	28	61	130
CNEL:	14	30	65	140

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — Project Name: Moreno Valley Walmart
Road Name: Indian Street — Job Number: 8870
Road Segment: North of Krameria Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 4,564 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 456 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-4.83	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-22.07	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-26.02	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.9	54.0	52.2	46.1	54.8	55.4
Medium Trucks:	49.8	48.3	42.0	40.4	48.9	49.1
Heavy Trucks:	51.2	49.7	40.7	42.0	50.3	50.4
Vehicle Noise:	57.9	56.1	52.9	48.3	56.9	57.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	13	29	62	133
CNEL:	14	31	66	142

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — Project Name: Moreno Valley Walmart
Road Name: Indian Street — Job Number: 8870
Road Segment: South of Krameria Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 2,136 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 214 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-8.14	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-25.38	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-29.34	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.6	50.7	48.9	42.8	51.5	52.1
Medium Trucks:	46.5	45.0	38.7	37.1	45.6	45.8
Heavy Trucks:	47.8	46.4	37.4	38.6	47.0	47.1
Vehicle Noise:	54.6	52.8	49.6	45.0	53.5	54.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	8	17	37	80
CNEL:	9	18	40	86

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — Project Name: Moreno Valley Walmart
Road Name: Indian Street — Job Number: 8870
Road Segment: South of Harley Knox Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 4,440 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 444 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-6.35	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-23.59	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-27.54	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.7	57.8	56.0	50.0	58.6	59.2
Medium Trucks:	53.1	51.6	45.2	43.7	52.1	52.4
Heavy Trucks:	53.1	51.7	42.7	43.9	52.3	52.4
Vehicle Noise:	61.3	59.5	56.6	51.7	60.3	60.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	22	48	104	224
CNEL:	24	52	112	241

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: North of SR-60 WB Ramps

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 30,672 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 3,067 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.04	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.19	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.15	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.9	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	62.3	60.8	54.4	52.9	61.3	61.6
Heavy Trucks:	62.3	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	70.5	68.7	65.8	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	92	187	425	917
CNEL:	99	212	458	986

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: SR-60 WB Ramps to Sunnymead Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 33,360 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 3,336 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.41	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-14.83	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.78	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.3	67.4	65.6	59.5	68.2	68.8
Medium Trucks:	62.6	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.7	61.3	52.2	53.5	61.8	62.0
Vehicle Noise:	70.8	69.1	66.1	61.2	69.8	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	97	209	450	969
CNEL:	104	225	484	1,043

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: South of Sunnymead Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 24,708 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,471 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.11	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.13	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.09	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.2	65.3	63.5	57.4	66.1	66.7
Medium Trucks:	60.6	59.0	52.7	51.1	59.6	59.8
Heavy Trucks:	60.6	59.2	50.1	51.4	59.7	59.9
Vehicle Noise:	68.7	67.0	64.0	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	70	152	327	703
CNEL:	76	163	351	757

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: North of Eucalyptus Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 20,545 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,055 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.30	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.93	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.89	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.4	64.5	62.7	56.6	65.3	65.9
Medium Trucks:	59.8	58.2	51.9	50.3	58.8	59.0
Heavy Trucks:	59.8	58.4	49.3	50.6	58.9	59.1
Vehicle Noise:	67.9	66.2	63.2	58.4	66.9	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	62	134	289	622
CNEL:	67	144	311	669

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: South of Eucalyptus Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 18,745 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,875 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.09	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.33	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.29	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.0	64.1	62.3	56.2	64.9	65.5
Medium Trucks:	59.4	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	59.4	58.0	48.9	50.2	58.5	58.7
Vehicle Noise:	67.5	65.8	62.8	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	59	126	272	585
CNEL:	63	136	292	630

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: North of Cottonwood Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 23,474 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,347 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.68	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.35	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.31	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.9	65.0	63.3	57.2	65.8	66.5
Medium Trucks:	60.3	58.8	52.5	50.8	59.4	59.6
Heavy Trucks:	60.4	58.9	49.9	51.2	59.5	59.6
Vehicle Noise:	68.5	66.8	63.8	58.9	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	68	146	316	680
CNEL:	73	158	339	731

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — *Project Name:* Moreno Valley Walmart
Road Name: Perris Boulevard — *Job Number:* 8870
Road Segment: South of Cottonwood Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,820 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,182 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.57	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.67	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.63	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.6	64.7	63.0	56.9	65.5	66.1
Medium Trucks:	60.0	58.5	52.1	50.6	59.1	59.3
Heavy Trucks:	60.1	58.6	49.6	50.8	59.2	59.3
Vehicle Noise:	68.2	66.4	63.5	58.6	67.2	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	65	140	301	648
CNEL:	70	150	323	697

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — *Project Name:* Moreno Valley Walmart
Road Name: Perris Boulevard — *Job Number:* 8870
Road Segment: North of Alessandro Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,576 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,958 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.09	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.14	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.10	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.2	64.3	62.5	56.4	65.1	65.7
Medium Trucks:	59.5	58.0	51.7	50.1	58.6	58.8
Heavy Trucks:	59.6	58.2	49.1	50.4	58.7	58.9
Vehicle Noise:	67.7	66.0	63.0	58.1	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	60	130	280	602
CNEL:	65	140	301	648

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — *Project Name:* Moreno Valley Walmart
Road Name: Perris Boulevard — *Job Number:* 8870
Road Segment: South of Alessandro Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,948 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,095 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.38	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.85	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.81	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.4	64.6	62.8	56.7	65.4	66.0
Medium Trucks:	59.8	58.3	52.0	50.4	58.9	59.1
Heavy Trucks:	59.9	58.5	49.4	50.7	59.0	59.1
Vehicle Noise:	68.0	66.3	63.3	58.4	67.0	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	63	136	292	630
CNEL:	68	146	315	678

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — *Project Name:* Moreno Valley Walmart
Road Name: Perris Boulevard — *Job Number:* 8870
Road Segment: North of Cactus Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,759 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,976 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.14	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.10	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.06	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.2	64.3	62.5	56.5	65.1	65.7
Medium Trucks:	59.6	58.1	51.7	50.2	58.6	58.9
Heavy Trucks:	59.6	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	67.8	66.0	63.1	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	61	131	281	606
CNEL:	65	140	303	652

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — *Project Name:* Moreno Valley Walmart
Road Name: Perris Boulevard — *Job Number:* 8870
Road Segment: South of Cactus Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,417 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,142 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.49	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.75	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.71	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.3	65.4	63.7	57.6	66.2	66.8
Medium Trucks:	60.7	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	60.8	59.3	50.3	51.6	59.9	60.0
Vehicle Noise:	68.9	67.1	64.2	59.3	67.9	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	72	155	335	721
CNEL:	78	167	360	776

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — *Project Name:* Moreno Valley Walmart
Road Name: Perris Boulevard — *Job Number:* 8870
Road Segment: North of John F. Kennedy Drive

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,162 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,916 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.00	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.24	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.19	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	64.9	63.2	57.1	65.8	66.4
Medium Trucks:	60.2	58.7	52.4	50.8	59.3	59.5
Heavy Trucks:	60.3	58.9	49.8	51.1	59.4	59.5
Vehicle Noise:	68.4	66.7	63.7	58.8	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	67	144	311	670
CNEL:	72	155	334	721

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project | Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard | Job Number: 8870
Road Segment: South of John F. Kennedy Drive

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,014 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,401 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.98	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.26	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.21	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.8	65.9	64.2	58.1	66.7	67.3
Medium Trucks:	61.2	59.7	53.4	51.6	60.3	60.5
Heavy Trucks:	61.3	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	69.4	67.6	64.7	59.8	68.4	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	78	168	361	779
CNEL:	84	180	389	838

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project | Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard | Job Number: 8870
Road Segment: North of Gentian Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,350 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,135 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.47	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.77	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.72	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.3	65.4	63.7	57.6	66.2	66.8
Medium Trucks:	60.7	59.2	52.8	51.3	59.8	60.0
Heavy Trucks:	60.7	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	68.9	67.1	64.2	59.3	67.9	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	72	155	334	720
CNEL:	77	167	359	774

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project | Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard | Job Number: 8870
Road Segment: Gentian Avenue to Driveway 3

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,014 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,101 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.40	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.84	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.79	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.2	65.3	63.6	57.5	66.2	66.8
Medium Trucks:	60.6	59.1	52.8	51.2	59.7	59.9
Heavy Trucks:	60.7	59.3	50.2	51.5	59.8	60.0
Vehicle Noise:	68.8	67.1	64.1	59.2	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	71	153	331	712
CNEL:	77	165	356	768

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project | Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard | Job Number: 8870
Road Segment: Driveway 3 to Driveway 4

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,666 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,967 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.11	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.12	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.08	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.0	65.1	63.3	57.2	65.9	66.5
Medium Trucks:	60.4	58.6	52.5	50.9	59.4	59.6
Heavy Trucks:	60.4	59.0	49.9	51.2	59.5	59.7
Vehicle Noise:	68.5	66.8	63.8	58.9	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	68	147	316	682
CNEL:	73	158	340	733

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project | Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard | Job Number: 8870
Road Segment: Driveway 4 to Santiago Drive

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,425 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,943 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.06	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.18	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.13	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.9	65.0	63.2	57.2	65.8	66.4
Medium Trucks:	60.3	58.8	52.4	50.9	59.3	59.6
Heavy Trucks:	60.3	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	68.5	66.7	63.8	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	68	146	314	676
CNEL:	73	157	338	727

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project | Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard | Job Number: 8870
Road Segment: Santiago Drive to Iris Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,188 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,919 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.01	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.23	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.19	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.9	65.0	63.2	57.1	65.8	66.4
Medium Trucks:	60.2	58.7	52.4	50.8	59.3	59.5
Heavy Trucks:	60.3	58.9	49.8	51.1	59.4	59.6
Vehicle Noise:	68.4	66.7	63.7	58.8	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	67	144	311	670
CNEL:	72	155	335	721

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Perris Boulevard
Road Segment: South of Iris Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 18,066 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,807 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.25	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.49	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.45	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.6	64.7	62.9	56.9	65.5	66.1
Medium Trucks:	60.0	58.5	52.1	50.6	59.0	59.3
Heavy Trucks:	60.0	58.6	49.6	50.8	59.2	59.3
Vehicle Noise:	68.2	66.4	63.5	58.6	67.1	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	64	139	299	644
CNEL:	69	149	322	693

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Perris Boulevard
Road Segment: North of Krameria Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 16,684 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,668 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.60	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.84	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.79	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.2	64.3	62.6	56.5	65.1	65.8
Medium Trucks:	59.6	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	59.7	58.3	49.2	50.5	58.8	58.9
Vehicle Noise:	67.8	66.1	63.1	58.2	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	61	132	284	611
CNEL:	66	142	306	657

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Perris Boulevard
Road Segment: South of Krameria Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 17,272 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,727 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.45	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.69	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.64	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.4	64.5	62.7	56.7	65.3	65.9
Medium Trucks:	59.8	58.3	51.9	50.4	58.8	59.1
Heavy Trucks:	59.8	58.4	49.4	50.6	59.0	59.1
Vehicle Noise:	68.0	66.2	63.3	58.4	66.9	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	63	135	290	625
CNEL:	67	145	312	672

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Perris Boulevard
Road Segment: North of San Michele Road

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 18,316 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,832 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.19	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.43	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.39	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.7	64.8	63.0	56.9	65.6	66.2
Medium Trucks:	60.0	58.5	52.2	50.6	59.1	59.3
Heavy Trucks:	60.1	58.7	49.6	50.9	59.2	59.4
Vehicle Noise:	68.2	66.5	63.5	58.6	67.2	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	65	140	302	650
CNEL:	70	151	325	699

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Perris Boulevard
Road Segment: San Michele Road to Nandina Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 17,428 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,743 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.41	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.65	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.60	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.4	64.5	62.8	56.7	65.3	65.9
Medium Trucks:	59.8	58.3	52.0	50.4	58.9	59.1
Heavy Trucks:	59.9	58.4	49.4	50.7	59.0	59.1
Vehicle Noise:	68.0	66.3	63.3	58.4	67.0	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	63	135	292	629
CNEL:	68	146	314	676

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Perris Boulevard
Road Segment: South of Nandina Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 17,368 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,737 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.43	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.66	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.62	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.4	64.5	62.8	56.7	65.3	65.9
Medium Trucks:	59.8	58.3	51.9	50.4	58.9	59.1
Heavy Trucks:	59.8	58.4	49.4	50.6	59.0	59.1
Vehicle Noise:	68.0	66.2	63.3	58.4	67.0	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	63	135	291	627
CNEL:	67	145	313	675

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — *Project Name:* Moreno Valley Walmart
Road Name: Perris Boulevard — *Job Number:* 8870
Road Segment: North of Harley Knox Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,084 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,808 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.403
Medium Trucks:	99.314
Heavy Trucks:	99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.62	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-16.62	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-20.58	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.3	61.4	59.6	53.6	62.2	62.8
Medium Trucks:	57.1	55.5	49.2	47.6	56.1	56.3
Heavy Trucks:	57.9	56.5	47.4	48.7	57.0	57.2
Vehicle Noise:	65.1	63.4	60.2	55.6	64.1	64.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	40	87	186	405
CNEL:	43	94	201	434

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — *Project Name:* Moreno Valley Walmart
Road Name: Perris Boulevard — *Job Number:* 8870
Road Segment: South of Harley Knox Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,022 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,802 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.403
Medium Trucks:	99.314
Heavy Trucks:	99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.10	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-17.14	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-21.10	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.8	60.9	59.1	53.1	61.7	62.3
Medium Trucks:	56.5	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	57.4	56.0	46.9	48.2	56.5	56.7
Vehicle Noise:	64.6	62.9	59.7	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	37	80	173	374
CNEL:	40	86	186	401

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — *Project Name:* Moreno Valley Walmart
Road Name: Perris Boulevard — *Job Number:* 8870
Road Segment: North of Ramona Expressway

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,437 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,444 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.23	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.47	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.42	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.8	62.9	61.2	55.1	63.7	64.3
Medium Trucks:	58.2	56.7	50.4	48.8	57.3	57.5
Heavy Trucks:	58.3	56.8	47.8	49.1	57.4	57.5
Vehicle Noise:	66.4	64.7	61.7	56.6	65.4	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	49	106	228	492
CNEL:	53	114	246	529

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — *Project Name:* Moreno Valley Walmart
Road Name: Perris Boulevard — *Job Number:* 8870
Road Segment: South of Ramona Expressway

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,568 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,457 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.19	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.43	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.38	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.7	63.8	62.0	55.9	64.6	65.2
Medium Trucks:	59.0	57.5	51.2	49.6	58.1	58.3
Heavy Trucks:	59.1	57.7	48.6	49.9	58.2	58.4
Vehicle Noise:	67.2	65.5	62.5	57.6	66.2	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	56	120	259	558
CNEL:	60	129	278	600

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — *Project Name:* Moreno Valley Walmart
Road Name: Kitching Street — *Job Number:* 8870
Road Segment: North of Cactus Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,468 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	847 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-4.71	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-21.95	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-25.91	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.3	59.4	57.7	51.6	60.2	60.9
Medium Trucks:	54.7	53.2	46.9	45.3	53.8	54.0
Heavy Trucks:	54.8	53.4	44.3	45.6	53.9	54.0
Vehicle Noise:	62.9	61.2	58.2	53.3	61.9	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	29	62	134	288
CNEL:	31	67	144	310

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project — *Project Name:* Moreno Valley Walmart
Road Name: Kitching Street — *Job Number:* 8870
Road Segment: South of Cactus Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,148 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	815 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.33	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-19.57	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-23.52	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.4	56.5	54.7	48.6	57.3	57.9
Medium Trucks:	52.3	50.8	44.5	42.9	51.4	51.6
Heavy Trucks:	53.7	52.2	43.2	44.5	52.8	52.9
Vehicle Noise:	60.4	58.6	55.4	50.6	59.4	59.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	20	42	91	195
CNEL:	21	45	97	209

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Kitching Street
Road Segment: North of John F. Kennedy Drive
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	7,984 vehicles	Autos:	15			
Peak Hour Percentage:	10%	Medium Trucks (2 Axles):	15			
Peak Hour Volume:	739 vehicles	Heavy Trucks (3+ Axles):	15			
Vehicle Speed:	40 mph	**Vehicle Mix**				
Near/Far Lane Distance:	12 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	99.945			
Road Grade:	0.0%	Medium Trucks:	99.856			
Left View:	-90.0 degrees	Heavy Trucks:	99.865			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.75	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-19.96	-4.61	-1.20	-4.66	0.000	0.000
Heavy Trucks:	82.99	-23.84	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.9	55.0	54.3	46.2	56.8	57.5
Medium Trucks:	51.9	50.4	44.0	42.5	51.0	51.2
Heavy Trucks:	53.2	51.8	42.8	44.0	52.4	52.5
Vehicle Noise:	60.0	58.2	54.8	50.4	58.9	59.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	18	39	85	183
CNEL:	20	42	91	196

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Kitching Street
Road Segment: South of John F. Kennedy Drive
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	8,532 vehicles	Autos:	15			
Peak Hour Percentage:	10%	Medium Trucks (2 Axles):	15			
Peak Hour Volume:	853 vehicles	Heavy Trucks (3+ Axles):	15			
Vehicle Speed:	40 mph	**Vehicle Mix**				
Near/Far Lane Distance:	12 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	99.945			
Road Grade:	0.0%	Medium Trucks:	99.856			
Left View:	-90.0 degrees	Heavy Trucks:	99.865			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.13	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-19.37	-4.61	-1.20	-4.59	0.000	0.000
Heavy Trucks:	82.99	-23.32	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.6	56.7	54.9	48.8	57.5	58.1
Medium Trucks:	52.5	51.0	44.7	43.1	51.8	51.8
Heavy Trucks:	53.9	52.4	43.4	44.7	53.0	53.1
Vehicle Noise:	60.6	58.8	55.5	51.0	59.6	60.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	20	43	93	201
CNEL:	22	46	100	215

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Kitching Street
Road Segment: North of Iris Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	8,000 vehicles	Autos:	15			
Peak Hour Percentage:	10%	Medium Trucks (2 Axles):	15			
Peak Hour Volume:	800 vehicles	Heavy Trucks (3+ Axles):	15			
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.76	-5.04	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-22.28	-4.51	-1.20	-4.66	0.000	0.000
Heavy Trucks:	86.40	-26.24	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.0	59.1	57.4	51.3	59.8	60.5
Medium Trucks:	54.4	52.9	46.5	45.0	53.5	53.7
Heavy Trucks:	54.4	53.0	44.0	45.2	53.6	53.7
Vehicle Noise:	62.6	60.8	57.9	53.0	61.6	62.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	27	59	127	274
CNEL:	29	63	137	295

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Kitching Street
Road Segment: South of Iris Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	7,164 vehicles	Autos:	15			
Peak Hour Percentage:	10%	Medium Trucks (2 Axles):	15			
Peak Hour Volume:	716 vehicles	Heavy Trucks (3+ Axles):	15			
Vehicle Speed:	45 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.40	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-20.64	-4.61	-1.20	-4.66	0.000	0.000
Heavy Trucks:	84.25	-24.58	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.3	57.4	55.7	49.6	58.2	58.8
Medium Trucks:	53.1	51.6	45.2	43.7	52.1	52.4
Heavy Trucks:	53.9	52.5	43.5	44.7	53.1	53.2
Vehicle Noise:	61.2	59.4	56.3	51.6	60.1	60.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	22	47	102	220
CNEL:	24	51	110	236

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Lasselle Street
Road Segment: South of John F. Kennedy Drive
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	19,468 vehicles	Autos:	15			
Peak Hour Percentage:	10%	Medium Trucks (2 Axles):	15			
Peak Hour Volume:	1,947 vehicles	Heavy Trucks (3+ Axles):	15			
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.16	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.40	-4.51	-1.20	-4.59	0.000	0.000
Heavy Trucks:	86.40	-21.36	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.8	64.0	62.2	56.2	64.9	65.4
Medium Trucks:	58.3	57.8	51.4	49.9	58.3	58.8
Heavy Trucks:	58.3	57.9	48.9	50.1	58.5	58.8
Vehicle Noise:	67.5	65.7	62.8	57.8	66.4	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	58	125	269	579
CNEL:	62	134	289	623

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Plus Project
Road Name: Lasselle Street
Road Segment: North of Iris Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	28,484 vehicles	Autos:	15			
Peak Hour Percentage:	10%	Medium Trucks (2 Axles):	15			
Peak Hour Volume:	2,848 vehicles	Heavy Trucks (3+ Axles):	15			
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.76	1.41	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.83	-4.51	-1.20	-4.66	0.000	0.000
Heavy Trucks:	86.40	-19.79	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.5	65.8	63.8	57.7	66.4	67.0
Medium Trucks:	60.9	59.4	53.0	51.4	59.9	60.1
Heavy Trucks:	60.9	59.5	50.4	51.7	60.0	60.2
Vehicle Noise:	69.0	67.3	64.3	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	74	159	342	737
CNEL:	79	171	368	793

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Sunnymead Boulevard
Road Segment: Perris Boulevard to SR-60 EB On-Ramp
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

- *Average Daily Traffic (Adt):* 21,348 vehicles
- *Peak Hour Percentage:* 10%
- *Peak Hour Volume:* 2,135 vehicles
- *Vehicle Speed:* 55 mph
- *Near/Far Lane Distance:* 36 feet

Site Data

- ***Barrier Height:*** **0.0 feet**
- *Barrier Type (0-Wall, 1-Berm):* 0.0
- *Centerline Dist. to Barrier:* 100.0 feet
- *Centerline Dist. to Observer:* 100.0 feet
- *Barrier Distance to Observer:* 0.0 feet
- *Observer Height (Above Pad):* 5.0 feet
- *Pad Elevation:* 0.0 feet
- *Road Elevation:* 0.0 feet
- *Road Grade:* 0.0%
- *Left View:* -90.0 degrees
- *Right View:* 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

- *Autos:* 15
- *Medium Trucks (2 Axles):* 15
- *Heavy Trucks (3+ Axles):* 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

- *Autos:* 0.000
- *Medium Trucks:* 2.297
- *Heavy Trucks:* 8.006 *Grade Adjustment:* 0.0

Lane Equivalent Distance (in feet)

- *Autos:* 98.494
- *Medium Trucks:* 98.404
- *Heavy Trucks:* 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.47	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.77	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.72	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.5	64.6	62.9	56.8	65.4	66.0
Medium Trucks:	59.9	58.4	52.1	50.6	59.0	59.2
Heavy Trucks:	60.0	58.5	49.5	50.8	59.1	59.2
Vehicle Noise:	68.1	66.3	63.4	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	64	137	296	638
CNEL:	69	148	319	687

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Eucalyptus Avenue
Road Segment: East of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

- *Average Daily Traffic (Adt):* 8,222 vehicles
- *Peak Hour Percentage:* 10%
- *Peak Hour Volume:* 822 vehicles
- *Vehicle Speed:* 40 mph
- *Near/Far Lane Distance:* 12 feet

Site Data

- ***Barrier Height:*** **0.0 feet**
- *Barrier Type (0-Wall, 1-Berm):* 0.0
- *Centerline Dist. to Barrier:* 100.0 feet
- *Centerline Dist. to Observer:* 100.0 feet
- *Barrier Distance to Observer:* 0.0 feet
- *Observer Height (Above Pad):* 5.0 feet
- *Pad Elevation:* 0.0 feet
- *Road Elevation:* 0.0 feet
- *Road Grade:* 0.0%
- *Left View:* -90.0 degrees
- *Right View:* 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

- *Autos:* 15
- *Medium Trucks (2 Axles):* 15
- *Heavy Trucks (3+ Axles):* 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

- *Autos:* 0.000
- *Medium Trucks:* 2.297
- *Heavy Trucks:* 8.006 *Grade Adjustment:* 0.0

Lane Equivalent Distance (in feet)

- *Autos:* 99.945
- *Medium Trucks:* 99.856
- *Heavy Trucks:* 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.29	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-19.53	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-23.48	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.4	56.5	54.7	48.7	57.3	57.9
Medium Trucks:	52.4	50.9	44.5	43.0	51.4	51.7
Heavy Trucks:	53.7	52.3	43.2	44.5	52.8	53.0
Vehicle Noise:	60.4	58.7	55.4	50.9	59.4	59.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	20	42	91	196
CNEL:	21	45	98	210

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Cottonwood Avenue
Road Segment: West of Indian Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

- *Average Daily Traffic (Adt):* 10,878 vehicles
- *Peak Hour Percentage:* 10%
- *Peak Hour Volume:* 1,088 vehicles
- *Vehicle Speed:* 45 mph
- *Near/Far Lane Distance:* 24 feet

Site Data

- ***Barrier Height:*** **0.0 feet**
- *Barrier Type (0-Wall, 1-Berm):* 0.0
- *Centerline Dist. to Barrier:* 100.0 feet
- *Centerline Dist. to Observer:* 100.0 feet
- *Barrier Distance to Observer:* 0.0 feet
- *Observer Height (Above Pad):* 5.0 feet
- *Pad Elevation:* 0.0 feet
- *Road Elevation:* 0.0 feet
- *Road Grade:* 0.0%
- *Left View:* -90.0 degrees
- *Right View:* 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

- *Autos:* 15
- *Medium Trucks (2 Axles):* 15
- *Heavy Trucks (3+ Axles):* 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

- *Autos:* 0.000
- *Medium Trucks:* 2.297
- *Heavy Trucks:* 8.006 *Grade Adjustment:* 0.0

Lane Equivalent Distance (in feet)

- *Autos:* 99.403
- *Medium Trucks:* 99.314
- *Heavy Trucks:* 99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.59	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-18.82	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-22.78	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.1	59.2	57.4	51.4	60.0	60.6
Medium Trucks:	54.9	53.3	47.0	45.4	53.9	54.1
Heavy Trucks:	55.7	54.3	45.2	46.5	54.8	55.0
Vehicle Noise:	62.9	61.2	58.0	53.4	61.9	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	29	62	134	289
CNEL:	31	67	144	310

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Cottonwood Avenue
Road Segment: East of Indian Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

- *Average Daily Traffic (Adt):* 8,814 vehicles
- *Peak Hour Percentage:* 10%
- *Peak Hour Volume:* 881 vehicles
- *Vehicle Speed:* 45 mph
- *Near/Far Lane Distance:* 24 feet

Site Data

- ***Barrier Height:*** **0.0 feet**
- *Barrier Type (0-Wall, 1-Berm):* 0.0
- *Centerline Dist. to Barrier:* 100.0 feet
- *Centerline Dist. to Observer:* 100.0 feet
- *Barrier Distance to Observer:* 0.0 feet
- *Observer Height (Above Pad):* 5.0 feet
- *Pad Elevation:* 0.0 feet
- *Road Elevation:* 0.0 feet
- *Road Grade:* 0.0%
- *Left View:* -90.0 degrees
- *Right View:* 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

- *Autos:* 15
- *Medium Trucks (2 Axles):* 15
- *Heavy Trucks (3+ Axles):* 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

- *Autos:* 0.000
- *Medium Trucks:* 2.297
- *Heavy Trucks:* 8.006 *Grade Adjustment:* 0.0

Lane Equivalent Distance (in feet)

- *Autos:* 99.403
- *Medium Trucks:* 99.314
- *Heavy Trucks:* 99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.50	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-19.74	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-23.69	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.2	58.3	56.5	50.5	59.1	59.7
Medium Trucks:	53.9	52.4	46.1	44.5	53.0	53.2
Heavy Trucks:	54.8	53.4	44.3	45.6	53.9	54.1
Vehicle Noise:	62.0	60.3	57.1	52.4	61.0	61.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	25	54	116	251
CNEL:	27	58	125	269

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Cottonwood Avenue
Road Segment: West of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

- *Average Daily Traffic (Adt):* 8,606 vehicles
- *Peak Hour Percentage:* 10%
- *Peak Hour Volume:* 861 vehicles
- *Vehicle Speed:* 45 mph
- *Near/Far Lane Distance:* 24 feet

Site Data

- ***Barrier Height:*** **0.0 feet**
- *Barrier Type (0-Wall, 1-Berm):* 0.0
- *Centerline Dist. to Barrier:* 100.0 feet
- *Centerline Dist. to Observer:* 100.0 feet
- *Barrier Distance to Observer:* 0.0 feet
- *Observer Height (Above Pad):* 5.0 feet
- *Pad Elevation:* 0.0 feet
- *Road Elevation:* 0.0 feet
- *Road Grade:* 0.0%
- *Left View:* -90.0 degrees
- *Right View:* 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

- *Autos:* 15
- *Medium Trucks (2 Axles):* 15
- *Heavy Trucks (3+ Axles):* 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

- *Autos:* 0.000
- *Medium Trucks:* 2.297
- *Heavy Trucks:* 8.006 *Grade Adjustment:* 0.0

Lane Equivalent Distance (in feet)

- *Autos:* 99.403
- *Medium Trucks:* 99.314
- *Heavy Trucks:* 99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.60	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-19.84	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-23.80	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.1	58.2	56.4	50.4	59.0	59.6
Medium Trucks:	53.8	52.3	46.0	44.4	52.9	53.1
Heavy Trucks:	54.7	53.3	44.2	45.5	53.8	54.0
Vehicle Noise:	61.9	60.2	57.0	52.3	60.9	61.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	25	53	115	247
CNEL:	26	57	123	265

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Cottonwood Avenue
Road Segment: East of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

- *Average Daily Traffic (Adt):* 9,332 vehicles
- *Peak Hour Percentage:* 10%
- *Peak Hour Volume:* 933 vehicles
- *Vehicle Speed:* 40 mph
- *Near/Far Lane Distance:* 12 feet

Site Data

- ***Barrier Height:*** **0.0 feet**
- *Barrier Type (0-Wall, 1-Berm):* 0.0
- *Centerline Dist. to Barrier:* 100.0 feet
- *Centerline Dist. to Observer:* 100.0 feet
- *Barrier Distance to Observer:* 0.0 feet
- *Observer Height (Above Pad):* 5.0 feet
- *Pad Elevation:* 0.0 feet
- *Road Elevation:* 0.0 feet
- *Road Grade:* 0.0%
- *Left View:* -90.0 degrees
- *Right View:* 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

- *Autos:* 15
- *Medium Trucks (2 Axles):* 15
- *Heavy Trucks (3+ Axles):* 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

- *Autos:* 0.000
- *Medium Trucks:* 2.297
- *Heavy Trucks:* 8.006 *Grade Adjustment:* 0.0

Lane Equivalent Distance (in feet)

- *Autos:* 99.945
- *Medium Trucks:* 99.856
- *Heavy Trucks:* 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.74	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-18.98	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-22.93	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.0	57.1	55.3	49.2	57.9	58.5
Medium Trucks:	52.9	51.4	45.1	43.5	52.0	52.2
Heavy Trucks:	54.3	52.8	43.8	45.0	53.4	53.5
Vehicle Noise:	61.0	59.2	56.0	51.4	59.9	60.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	21	46	99	214
CNEL:	23	49	106	229

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project — Project Name: Moreno Valley Walmart
Road Name: Alessandro Boulevard — Job Number: 8870
Road Segment: West of Heacock Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,940 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,194 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.22	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.02	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.97	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.1	67.2	65.4	59.3	68.0	68.6
Medium Trucks:	62.5	61.0	54.6	53.0	61.5	61.7
Heavy Trucks:	62.5	61.1	52.0	53.3	61.6	61.8
Vehicle Noise:	70.6	68.9	65.9	61.1	69.6	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	94	203	437	942
CNEL:	101	218	470	1,013

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project — Project Name: Moreno Valley Walmart
Road Name: Alessandro Boulevard — Job Number: 8870
Road Segment: East of Heacock Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,918 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,992 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.94	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.30	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.26	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.8	66.9	65.1	59.1	67.7	68.3
Medium Trucks:	62.2	60.7	54.3	52.8	61.2	61.5
Heavy Trucks:	62.2	60.8	51.8	53.0	61.4	61.5
Vehicle Noise:	70.4	68.6	65.6	60.9	69.3	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	90	194	418	902
CNEL:	97	209	450	970

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project — Project Name: Moreno Valley Walmart
Road Name: Alessandro Boulevard — Job Number: 8870
Road Segment: West of Indian Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,333 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,733 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.54	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.69	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.65	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.4	66.5	64.7	58.7	67.3	67.9
Medium Trucks:	61.8	60.3	53.9	52.4	60.8	61.1
Heavy Trucks:	61.8	60.4	51.4	52.6	61.0	61.1
Vehicle Noise:	70.0	68.2	65.3	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	85	183	394	849
CNEL:	91	197	424	913

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project — Project Name: Moreno Valley Walmart
Road Name: Alessandro Boulevard — Job Number: 8870
Road Segment: East of Indian Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,362 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,636 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.39	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.85	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.80	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.2	66.3	64.6	58.5	67.1	67.7
Medium Trucks:	61.6	60.1	53.6	52.2	60.7	60.9
Heavy Trucks:	61.7	60.2	51.2	52.5	60.8	60.9
Vehicle Noise:	69.8	68.1	65.1	60.2	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	83	179	385	829
CNEL:	89	192	414	892

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project — Project Name: Moreno Valley Walmart
Road Name: Alessandro Boulevard — Job Number: 8870
Road Segment: West of Perris Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,598 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,560 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.26	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.98	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.93	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.1	66.2	64.4	58.4	67.0	67.6
Medium Trucks:	61.5	60.0	53.6	52.1	60.5	60.8
Heavy Trucks:	61.5	60.1	51.1	52.3	60.7	60.8
Vehicle Noise:	69.7	67.9	65.0	60.1	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	81	175	377	812
CNEL:	87	188	406	874

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project — Project Name: Moreno Valley Walmart
Road Name: Alessandro Boulevard — Job Number: 8870
Road Segment: East of Perris Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,289 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,229 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.68	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.58	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.54	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.7	64.8	63.1	57.0	65.6	66.2
Medium Trucks:	60.1	58.6	52.2	50.7	59.2	59.4
Heavy Trucks:	60.1	58.7	49.7	50.9	59.3	59.4
Vehicle Noise:	68.3	66.5	63.6	58.7	67.3	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	66	141	305	657
CNEL:	71	152	328	707

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FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Scenario: Year 2018 Without Project
Road Name: Cactus Avenue
Road Segment: West of I-215 Freeway
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	27,904 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	2,760 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.62	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.82	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.56	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.7	65.8	64.6	58.6	66.8	67.2
Medium Trucks:	61.1	59.8	59.2	51.7	60.1	60.3
Heavy Trucks:	61.1	59.7	60.6	51.8	60.3	60.4
Vehicle Noise:	68.9	67.5	64.5	58.7	66.2	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	76	164	353	761
CNEL:	82	176	380	819

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FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Scenario: Year 2018 Without Project
Road Name: Cactus Avenue
Road Segment: I-215 SB Ramps to I-215 NB Ramps
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	42,994 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	4,299 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.47	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.77	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.72	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.5	67.6	66.9	59.8	68.4	69.0
Medium Trucks:	62.9	61.4	56.1	53.5	62.0	62.2
Heavy Trucks:	63.0	61.5	52.5	53.8	62.1	62.2
Vehicle Noise:	71.1	69.4	66.4	61.5	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	101	218	470	1,012
CNEL:	109	234	505	1,088

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FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Scenario: Year 2018 Without Project
Road Name: Cactus Avenue
Road Segment: East of I-215 NB Ramps
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	50,212 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	5,021 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.19	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.05	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.01	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.2	68.3	66.8	60.5	69.1	69.8
Medium Trucks:	63.6	62.1	55.8	54.2	62.7	62.9
Heavy Trucks:	63.7	62.3	53.2	54.5	62.8	62.9
Vehicle Noise:	71.9	70.1	67.1	62.2	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	113	243	524	1,128
CNEL:	121	262	564	1,214

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FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Scenario: Year 2018 Without Project
Road Name: Cactus Avenue
Road Segment: West of Elsworth Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	57,312 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	5,731 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.76	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.48	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.43	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.9	69.0	67.2	61.1	69.7	70.3
Medium Trucks:	64.2	62.7	58.3	54.8	63.3	63.5
Heavy Trucks:	64.2	62.8	53.8	55.0	63.4	63.5
Vehicle Noise:	72.4	70.6	67.7	62.9	71.4	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	123	266	572	1,233
CNEL:	133	286	616	1,326

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FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Scenario: Year 2018 Without Project
Road Name: Cactus Avenue
Road Segment: East of Elsworth Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	53,212 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	5,321 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	97.316			
Road Grade:	0.0%	Medium Trucks:	97.214			
Left View:	-90.0 degrees	Heavy Trucks:	97.224			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.44	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.80	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.76	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.3	69.4	67.6	61.6	70.2	70.8
Medium Trucks:	64.7	63.2	56.9	55.3	63.7	64.0
Heavy Trucks:	64.7	63.3	54.3	55.5	63.8	64.0
Vehicle Noise:	72.9	71.1	68.1	63.3	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	132	285	614	1,323
CNEL:	142	307	661	1,424

Friday, November 08, 2013

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Scenario: Year 2018 Without Project
Road Name: Cactus Avenue
Road Segment: West of Frederick Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	54,812 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	5,481 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	97.316			
Road Grade:	0.0%	Medium Trucks:	97.214			
Left View:	-90.0 degrees	Heavy Trucks:	97.224			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.67	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.67	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.63	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.4	69.5	67.7	61.7	70.3	70.9
Medium Trucks:	64.8	63.3	56.8	55.4	63.9	64.1
Heavy Trucks:	64.8	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	73.0	71.2	68.3	63.4	72.0	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	135	291	627	1,350
CNEL:	145	313	674	1,452

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project — Project Name: Moreno Valley Walmart
Road Name: Cactus Avenue — Job Number: 8870
Road Segment: East of Frederick Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 55,620 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 5,562 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.63	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.61	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.56	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.5	69.6	67.8	61.8	70.4	71.0
Medium Trucks:	64.9	63.4	57.0	55.5	63.9	64.1
Heavy Trucks:	64.9	63.5	54.4	55.7	64.1	64.2
Vehicle Noise:	73.1	71.3	68.3	63.5	72.0	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	136	294	633	1,363
CNEL:	147	316	681	1,466

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project — Project Name: Moreno Valley Walmart
Road Name: Cactus Avenue — Job Number: 8870
Road Segment: West of Graham Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 53,718 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 5,372 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.48	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.76	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.72	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.3	69.4	67.7	61.6	70.2	70.8
Medium Trucks:	64.7	63.2	56.8	55.3	63.8	64.0
Heavy Trucks:	64.8	63.3	54.3	55.5	63.9	64.0
Vehicle Noise:	72.9	71.1	68.2	63.3	71.9	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	133	287	618	1,332
CNEL:	143	309	665	1,433

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project — Project Name: Moreno Valley Walmart
Road Name: Cactus Avenue — Job Number: 8870
Road Segment: East of Graham Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 42,418 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 4,242 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.45	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.79	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.74	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.3	68.4	66.6	60.6	69.2	69.8
Medium Trucks:	63.7	62.2	55.8	54.3	62.7	63.0
Heavy Trucks:	63.7	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	71.9	70.1	67.2	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	114	245	528	1,138
CNEL:	122	264	568	1,224

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project — Project Name: Moreno Valley Walmart
Road Name: Cactus Avenue — Job Number: 8870
Road Segment: West of Heacock Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 38,371 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 3,837 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.02	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-14.22	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.18	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.9	68.0	66.2	60.1	68.8	69.4
Medium Trucks:	63.3	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	63.3	61.9	52.8	54.1	62.4	62.6
Vehicle Noise:	71.4	69.7	66.7	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	106	229	494	1,064
CNEL:	114	247	531	1,145

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project — Project Name: Moreno Valley Walmart
Road Name: Cactus Avenue — Job Number: 8870
Road Segment: East of Heacock Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 28,027 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,803 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.85	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.59	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.54	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.7	65.8	64.0	58.0	66.6	67.2
Medium Trucks:	61.1	59.6	53.2	51.7	60.2	60.4
Heavy Trucks:	61.1	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	69.3	67.5	64.6	59.7	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	77	165	355	765
CNEL:	82	177	382	823

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project — Project Name: Moreno Valley Walmart
Road Name: Cactus Avenue — Job Number: 8870
Road Segment: West of Indian Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 25,148 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,515 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.18	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.06	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.01	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.2	65.3	63.6	57.5	66.1	66.6
Medium Trucks:	60.6	59.1	52.8	51.2	59.7	59.9
Heavy Trucks:	60.7	59.2	50.2	51.5	59.8	59.9
Vehicle Noise:	68.8	67.1	64.1	59.2	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	71	153	330	712
CNEL:	77	165	355	768

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project | Project Name: Moreno Valley Walmart
Road Name: Cactus Avenue | Job Number: 8870
Road Segment: East of Indian Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 22,999 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,300 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.79	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.44	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.40	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.9	65.0	63.2	57.1	65.8	66.4
Medium Trucks:	60.2	58.7	52.4	50.6	59.3	59.5
Heavy Trucks:	60.3	58.9	49.8	51.1	59.4	59.6
Vehicle Noise:	68.4	66.7	63.7	58.8	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	67	144	311	671
CNEL:	72	155	335	721

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project | Project Name: Moreno Valley Walmart
Road Name: Cactus Avenue | Job Number: 8870
Road Segment: West of Perris Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 20,522 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,052 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.30	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.94	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.89	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.4	64.5	62.7	56.6	65.3	65.9
Medium Trucks:	59.8	58.2	51.9	50.3	58.8	59.0
Heavy Trucks:	59.8	58.4	49.3	50.6	58.9	59.1
Vehicle Noise:	67.9	66.2	63.2	58.3	66.9	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	62	134	289	622
CNEL:	67	144	310	669

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project | Project Name: Moreno Valley Walmart
Road Name: Cactus Avenue | Job Number: 8870
Road Segment: East of Perris Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 19,698 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,970 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.12	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.12	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.07	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.2	64.3	62.5	56.5	65.1	65.7
Medium Trucks:	59.6	58.1	51.7	50.2	58.6	58.9
Heavy Trucks:	59.6	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	67.8	66.0	63.0	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	60	130	281	605
CNEL:	65	140	302	651

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project | Project Name: Moreno Valley Walmart
Road Name: Cactus Avenue | Job Number: 8870
Road Segment: East of Kitching Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 15,229 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,523 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.00	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.23	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.19	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.1	63.2	61.4	55.3	64.0	64.6
Medium Trucks:	58.5	56.9	50.6	49.0	57.5	57.7
Heavy Trucks:	58.5	57.1	48.0	49.3	57.6	57.8
Vehicle Noise:	66.6	64.9	61.9	57.1	65.6	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	51	110	236	509
CNEL:	55	118	254	548

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project | Project Name: Moreno Valley Walmart
Road Name: John F. Kennedy Drive | Job Number: 8870
Road Segment: West of Heacock Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 9,414 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 941 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-3.08	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-20.32	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-24.28	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.0	61.1	59.3	53.3	61.9	62.5
Medium Trucks:	56.4	54.9	48.5	47.0	55.4	55.6
Heavy Trucks:	56.4	55.0	45.9	47.2	55.5	55.7
Vehicle Noise:	64.6	62.8	59.8	55.0	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	37	80	172	370
CNEL:	40	86	185	398

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project | Project Name: Moreno Valley Walmart
Road Name: John F. Kennedy Drive | Job Number: 8870
Road Segment: East of Heacock Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 11,089 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,109 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-2.37	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.61	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.57	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.7	61.8	60.0	54.0	62.6	63.2
Medium Trucks:	57.1	55.6	49.2	47.7	56.1	56.4
Heavy Trucks:	57.1	55.7	46.7	47.9	56.3	56.4
Vehicle Noise:	65.3	63.5	60.5	55.7	64.2	64.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	41	89	191	412
CNEL:	44	96	206	444

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: John F. Kennedy Drive
Road Segment: West of Indian Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,830 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,083 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-2.46	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.71	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.67	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.6	61.7	59.9	53.9	62.5	63.1
Medium Trucks:	57.0	55.5	49.1	47.6	56.0	56.3
Heavy Trucks:	57.0	55.6	46.6	47.8	56.2	56.3
Vehicle Noise:	65.2	63.4	60.4	55.6	64.1	64.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	41	87	188	406
CNEL:	44	94	203	437

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: John F. Kennedy Drive
Road Segment: East of Indian Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,036 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,104 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-2.39	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.63	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.59	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.7	61.8	60.0	53.9	62.6	63.2
Medium Trucks:	57.1	55.5	49.2	47.6	56.1	56.3
Heavy Trucks:	57.1	55.7	46.6	47.9	56.2	56.4
Vehicle Noise:	65.2	63.5	60.5	55.7	64.2	64.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	41	89	191	411
CNEL:	44	95	205	442

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: John F. Kennedy Drive
Road Segment: West of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,481 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,148 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-2.22	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.46	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.42	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.8	61.9	60.2	54.1	62.7	63.3
Medium Trucks:	57.2	55.7	49.4	47.8	56.3	56.5
Heavy Trucks:	57.3	55.8	46.8	48.1	56.4	56.5
Vehicle Noise:	65.4	63.7	60.7	55.9	64.4	64.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	42	91	196	422
CNEL:	45	98	211	454

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: John F. Kennedy Drive
Road Segment: East of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,098 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,210 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-2.00	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.23	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.19	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.1	62.2	60.4	54.3	63.0	63.6
Medium Trucks:	57.5	55.9	49.6	48.0	56.5	56.7
Heavy Trucks:	57.5	56.1	47.0	48.3	56.6	56.8
Vehicle Noise:	65.6	63.9	60.9	56.1	64.6	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	44	94	203	437
CNEL:	47	101	218	470

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: John F. Kennedy Drive
Road Segment: West of Kitching Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,096 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,110 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-2.37	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.61	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.57	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.7	61.8	60.0	54.0	62.6	63.2
Medium Trucks:	57.1	55.6	49.2	47.7	56.1	56.4
Heavy Trucks:	57.1	55.7	46.7	47.9	56.3	56.4
Vehicle Noise:	65.3	63.5	60.6	55.7	64.2	64.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	41	89	191	413
CNEL:	44	96	206	444

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: John F. Kennedy Drive
Road Segment: East of Kitching Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,210 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	821 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-3.68	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-20.92	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-24.87	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.4	60.5	58.7	52.7	61.3	61.9
Medium Trucks:	55.8	54.3	47.9	46.4	54.8	55.1
Heavy Trucks:	55.8	54.4	45.4	46.6	55.0	55.1
Vehicle Noise:	64.0	62.2	59.2	54.4	62.9	63.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	34	73	157	337
CNEL:	36	78	169	363

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FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Scenario: Year 2018 Without Project
Road Name: Gentian Avenue
Road Segment: West of Indian Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	1,870 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	187 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	45 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-8.23	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	78.45	-26.47	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-30.43	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.5	51.6	49.8	43.8	52.4	53.0
Medium Trucks:	47.3	45.8	39.4	37.9	46.3	46.5
Heavy Trucks:	48.1	46.7	37.7	38.8	47.3	47.4
Vehicle Noise:	55.0	53.6	50.5	46.0	54.3	54.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	9	19	42	90
CNEL:	10	21	45	97

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FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Scenario: Year 2018 Without Project
Road Name: Gentian Avenue
Road Segment: East of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	2,575 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	258 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	40 mph	**Vehicle Mix**				
Near/Far Lane Distance:	12 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	99.945			
Road Grade:	0.0%	Medium Trucks:	99.856			
Left View:	-90.0 degrees	Heavy Trucks:	99.865			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-7.17	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-24.40	-4.61	-1.20	-4.89	0.000	0.000
Heavy Trucks:	82.99	-28.36	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.5	51.6	49.8	43.8	52.4	53.0
Medium Trucks:	47.5	46.0	39.6	38.1	46.5	46.8
Heavy Trucks:	48.8	47.4	38.4	39.8	48.0	48.1
Vehicle Noise:	56.5	53.8	50.5	46.0	54.5	55.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	9	20	43	93
CNEL:	10	21	46	98

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FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Scenario: Year 2018 Without Project
Road Name: Santiago Drive
Road Segment: East of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	9,140 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	914 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	40 mph	**Vehicle Mix**				
Near/Far Lane Distance:	12 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.945			
Road Grade:	0.0%	Medium Trucks:	98.856			
Left View:	-90.0 degrees	Heavy Trucks:	98.865			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-6.47	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-23.71	-4.61	-1.20	-4.89	0.000	0.000
Heavy Trucks:	82.99	-27.68	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.2	52.3	50.8	44.5	53.1	53.7
Medium Trucks:	48.2	46.7	40.3	38.8	47.2	47.5
Heavy Trucks:	49.5	48.1	39.1	40.3	48.7	48.8
Vehicle Noise:	56.2	54.5	51.2	46.7	55.2	55.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	10	22	48	103
CNEL:	11	24	51	111

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FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Scenario: Year 2018 Without Project
Road Name: Iris Avenue
Road Segment: West of Indian Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	10,997 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	1,100 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	40 mph	**Vehicle Mix**				
Near/Far Lane Distance:	12 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	99.945			
Road Grade:	0.0%	Medium Trucks:	99.856			
Left View:	-90.0 degrees	Heavy Trucks:	99.865			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.03	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-18.27	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-22.22	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.7	57.8	56.0	50.0	58.8	59.2
Medium Trucks:	53.8	52.1	45.8	44.2	52.7	52.9
Heavy Trucks:	55.0	53.5	44.5	45.8	54.1	54.2
Vehicle Noise:	61.7	59.8	56.7	52.1	60.7	61.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	24	51	111	238
CNEL:	26	55	118	255

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FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Scenario: Year 2018 Without Project
Road Name: Iris Avenue
Road Segment: East of Indian Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	13,998 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	1,396 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.36	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.60	-4.51	-1.20	-4.89	0.000	0.000
Heavy Trucks:	86.40	-22.56	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.7	62.8	61.0	55.0	63.5	64.2
Medium Trucks:	58.1	56.6	50.2	48.7	57.1	57.4
Heavy Trucks:	59.1	56.7	47.7	48.9	57.3	57.4
Vehicle Noise:	66.3	64.5	61.8	58.7	65.2	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	48	104	223	481
CNEL:	52	112	240	518

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FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Scenario: Year 2018 Without Project
Road Name: Iris Avenue
Road Segment: West of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	14,382 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	1,438 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.24	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.48	-4.51	-1.20	-4.89	0.000	0.000
Heavy Trucks:	86.40	-22.44	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.8	62.9	61.2	55.1	63.7	64.3
Medium Trucks:	58.2	56.7	50.3	48.8	57.3	57.5
Heavy Trucks:	59.2	56.8	47.8	49.0	57.4	57.5
Vehicle Noise:	66.4	64.6	61.7	58.8	65.4	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	49	106	228	491
CNEL:	53	114	245	528

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Iris Avenue
Road Segment: East of Perris Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 17,459 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,746 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.40	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.64	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.60	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.7	63.8	62.0	55.9	64.6	65.2
Medium Trucks:	59.0	57.5	51.2	49.6	58.1	58.3
Heavy Trucks:	59.1	57.7	48.6	49.9	58.2	58.4
Vehicle Noise:	67.2	65.5	62.5	57.6	66.2	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	56	120	259	558
CNEL:	60	129	279	600

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Iris Avenue
Road Segment: West of Kitching Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 20,967 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,097 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.39	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.85	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.80	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.5	64.6	62.8	56.7	65.4	66.0
Medium Trucks:	59.8	58.3	52.0	50.4	58.9	59.1
Heavy Trucks:	59.9	58.5	49.4	50.7	59.0	59.2
Vehicle Noise:	68.0	66.3	63.3	58.4	67.0	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	63	136	293	631
CNEL:	68	146	315	678

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Iris Avenue
Road Segment: East of Kitching Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 22,059 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,206 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.318
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.61	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.62	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.58	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.5	65.6	63.8	57.7	66.4	67.0
Medium Trucks:	60.9	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.9	59.5	50.4	51.7	60.0	60.2
Vehicle Noise:	69.0	67.3	64.3	59.4	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	74	159	342	736
CNEL:	79	171	367	792

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Iris Avenue
Road Segment: West of Lasselle Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 19,988 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,999 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.19	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.05	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.01	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.0	65.1	63.4	57.3	65.9	66.5
Medium Trucks:	60.4	58.9	52.6	51.0	59.5	59.7
Heavy Trucks:	60.5	59.0	50.0	51.3	59.6	59.7
Vehicle Noise:	68.6	66.8	63.9	59.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	69	148	320	689
CNEL:	74	160	344	741

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Iris Avenue
Road Segment: East of Lasselle Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 23,298 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,330 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.85	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.39	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.34	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.7	65.8	64.0	58.0	66.6	67.2
Medium Trucks:	61.1	59.6	53.2	51.7	60.1	60.4
Heavy Trucks:	61.1	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	69.3	67.5	64.6	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	76	164	354	763
CNEL:	82	177	381	821

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Kramena Avenue
Road Segment: East of Indian Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 3,406 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 341 vehicles
Vehicle Speed: 45 mph
Near/Far Lane Distance: 24 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.403
Medium Trucks: 99.314
Heavy Trucks: 99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-6.63	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-23.87	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-27.82	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.1	54.2	52.4	46.3	55.0	55.6
Medium Trucks:	49.8	48.3	41.9	40.4	48.9	49.1
Heavy Trucks:	50.7	49.2	40.2	41.4	49.8	49.9
Vehicle Noise:	57.9	56.1	53.0	48.3	56.9	57.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	13	29	62	133
CNEL:	14	31	66	143

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Krameria Avenue
Road Segment: West of Perris Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,482 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	448 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-4.92	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-22.16	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-26.12	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.8	53.9	52.1	46.1	54.7	55.3
Medium Trucks:	49.7	48.2	41.9	40.3	48.8	49.0
Heavy Trucks:	51.1	49.6	40.6	41.9	50.2	50.3
Vehicle Noise:	57.8	56.0	52.8	48.2	56.8	57.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	13	28	61	131
CNEL:	14	30	65	140

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Krameria Avenue
Road Segment: East of Perris Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,042 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	904 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-3.26	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-20.50	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-24.45	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.8	60.9	59.1	53.1	61.7	62.3
Medium Trucks:	56.2	54.7	48.3	46.8	55.2	55.5
Heavy Trucks:	56.2	54.8	45.8	47.0	55.4	55.5
Vehicle Noise:	64.4	62.6	59.7	54.8	63.3	63.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	36	78	167	360
CNEL:	39	83	180	387

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Harley Knox Boulevard
Road Segment: West of Webster Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,803 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,280 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.403
Medium Trucks:	99.314
Heavy Trucks:	99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	3.22	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-14.02	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-17.97	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.9	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	59.7	58.2	51.8	50.2	58.7	58.9
Heavy Trucks:	60.5	59.1	50.0	51.3	59.7	59.8
Vehicle Noise:	67.7	66.0	62.8	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	60	130	280	603
CNEL:	65	139	300	647

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Harley Knox Boulevard
Road Segment: East of Webster Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,925 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,293 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.403
Medium Trucks:	99.314
Heavy Trucks:	99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	3.22	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-14.01	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-17.97	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.9	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	59.7	58.2	51.8	50.2	58.7	58.9
Heavy Trucks:	60.5	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	67.7	66.0	62.8	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	60	130	280	604
CNEL:	65	140	301	648

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Harley Knox Boulevard
Road Segment: West of Indian Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,110 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.11	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.13	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.09	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.2	66.3	64.5	58.4	67.1	67.7
Medium Trucks:	61.6	60.0	53.7	52.1	60.6	60.8
Heavy Trucks:	61.6	60.2	51.1	52.4	60.7	60.9
Vehicle Noise:	69.7	68.0	65.0	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	82	177	381	820
CNEL:	88	190	409	882

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Harley Knox Boulevard
Road Segment: East of Indian Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,280 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.82	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.06	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.01	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.2	62.3	60.6	54.5	63.1	63.8
Medium Trucks:	57.6	56.1	49.8	48.2	56.7	56.9
Heavy Trucks:	57.7	56.2	47.2	48.5	56.8	56.9
Vehicle Noise:	65.8	64.1	61.1	56.2	64.8	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	45	97	208	449
CNEL:	48	104	224	483

FHWA-RD-77-108 Highway Noise Prediction Model

Scenario: Year 2018 Without Project
Road Name: Harley Knox Boulevard
Road Segment: West of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	12,600 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	1,260 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	45 mph	**Vehicle Mix**				
Near/Far Lane Distance:	24 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	99.403			
Road Grade:	0.0%	Medium Trucks:	99.314			
Left View:	-90.0 degrees	Heavy Trucks:	99.323			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.95	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-16.18	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-22.14	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.7	59.8	58.1	52.6	66.8	67.2
Medium Trucks:	55.5	54.0	47.8	48.1	54.5	54.8
Heavy Trucks:	58.3	54.9	45.9	47.1	55.5	55.6
Vehicle Noise:	63.6	61.8	58.7	54.0	62.5	63.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	92	89	148	316
CNEL:	94	74	158	341

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FHWA-RD-77-108 Highway Noise Prediction Model

Scenario: Year 2018 Without Project
Road Name: Ramona Expressway
Road Segment: West of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	37,300 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	3,730 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	87.316			
Road Grade:	0.0%	Medium Trucks:	87.214			
Left View:	-90.0 degrees	Heavy Trucks:	87.224			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.89	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-14.38	-3.73	-1.20	-4.89	0.000	0.000
Heavy Trucks:	86.40	-18.90	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.7	67.8	66.1	60.6	68.6	69.2
Medium Trucks:	62.1	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	63.2	61.7	52.7	54.0	62.3	62.4
Vehicle Noise:	71.3	69.8	66.8	61.7	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	104	225	485	1,044
CNEL:	112	242	521	1,123

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FHWA-RD-77-108 Highway Noise Prediction Model

Scenario: Year 2018 Without Project
Road Name: Ramona Expressway
Road Segment: East of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	34,500 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	3,450 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	98 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	87.316			
Road Grade:	0.0%	Medium Trucks:	87.214			
Left View:	-90.0 degrees	Heavy Trucks:	87.224			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.76	2.88	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-14.68	-3.73	-1.20	-4.89	0.000	0.000
Heavy Trucks:	86.40	-18.64	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.4	67.5	65.7	59.7	68.3	68.9
Medium Trucks:	62.8	61.3	54.9	53.4	61.8	62.1
Heavy Trucks:	62.8	61.4	52.4	53.6	62.0	62.1
Vehicle Noise:	71.0	69.2	66.0	61.4	69.9	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	98	214	460	991
CNEL:	107	230	495	1,067

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FHWA-RD-77-108 Highway Noise Prediction Model

Scenario: Year 2018 Without Project
Road Name: Frederick Street
Road Segment: North of Cactus Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	11,908 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	1,191 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-2.21	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.45	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.41	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.9	61.9	60.2	54.1	62.8	63.4
Medium Trucks:	57.2	55.7	49.4	47.8	56.3	56.5
Heavy Trucks:	57.3	55.8	46.8	48.1	56.4	56.5
Vehicle Noise:	65.4	63.7	60.7	55.8	64.4	64.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	42	91	196	423
CNEL:	45	98	211	455

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FHWA-RD-77-108 Highway Noise Prediction Model

Scenario: Year 2018 Without Project
Road Name: Heacock Street
Road Segment: North of Alessandro Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	19,932 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	1,993 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.54	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.77	-4.51	-1.20	-4.89	0.000	0.000
Heavy Trucks:	86.40	-21.73	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.5	63.6	61.9	55.8	64.4	65.0
Medium Trucks:	58.9	57.4	51.0	49.5	58.0	58.2
Heavy Trucks:	59.0	57.5	48.5	49.7	58.1	58.2
Vehicle Noise:	67.1	65.3	62.4	57.5	66.1	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	55	116	264	547
CNEL:	58	127	273	588

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FHWA-RD-77-108 Highway Noise Prediction Model

Scenario: Year 2018 Without Project
Road Name: Heacock Street
Road Segment: North of Cactus Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	12,561 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	1,256 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.76	-1.63	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.07	-4.51	-1.20	-4.89	0.000	0.000
Heavy Trucks:	86.40	-23.03	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.2	62.3	60.8	54.5	63.1	63.7
Medium Trucks:	57.6	56.1	49.7	48.2	56.7	56.9
Heavy Trucks:	57.7	56.2	47.2	48.4	56.8	56.9
Vehicle Noise:	65.0	64.0	61.1	56.2	64.8	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	46	97	208	448
CNEL:	48	104	224	482

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Indian Street
Road Segment: North of Cottonwood Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	8,661 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	865 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	40 mph	**Vehicle Mix**				
Near/Far Lane Distance:	12 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	99.945			
Road Grade:	0.0%	Medium Trucks:	99.856			
Left View:	-90.0 degrees	Heavy Trucks:	99.865			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.07	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-19.31	-4.61	-1.20	-4.66	0.000	0.000
Heavy Trucks:	82.99	-23.26	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.6	56.7	55.6	48.6	57.5	58.1
Medium Trucks:	52.8	51.1	44.7	43.2	51.6	51.9
Heavy Trucks:	53.9	52.5	43.5	44.7	53.1	53.2
Vehicle Noise:	60.6	58.8	55.6	51.1	59.5	60.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	20	44	94	203
CNEL:	22	47	101	217

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Indian Street
Road Segment: North of Alessandro Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	11,951 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	1,195 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	99.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-2.16	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.40	-4.51	-1.20	-4.59	0.000	0.000
Heavy Trucks:	86.40	-23.35	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.8	62.0	60.2	54.2	62.9	63.4
Medium Trucks:	57.3	55.8	49.4	47.9	56.3	56.8
Heavy Trucks:	57.3	55.9	46.9	48.1	56.5	56.8
Vehicle Noise:	65.5	63.7	60.8	55.9	64.4	64.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	43	92	198	426
CNEL:	46	98	213	458

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Indian Street
Road Segment: North of Cactus Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	12,424 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	1,242 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	99.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.76	-1.88	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.12	-4.51	-1.20	-4.66	0.000	0.000
Heavy Trucks:	86.40	-23.07	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.2	62.3	60.5	54.5	63.1	63.7
Medium Trucks:	57.6	56.1	49.7	48.2	56.6	56.9
Heavy Trucks:	57.6	56.2	47.2	48.4	56.8	56.9
Vehicle Noise:	65.9	64.0	61.0	56.2	64.7	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	44	96	206	445
CNEL:	48	103	222	479

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Indian Street
Road Segment: South of John F. Kennedy Drive
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	9,166 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	916 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-3.21	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-20.44	-4.51	-1.20	-4.66	0.000	0.000
Heavy Trucks:	86.40	-24.40	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.9	61.0	59.2	53.1	61.8	62.4
Medium Trucks:	56.2	54.7	48.4	46.8	55.3	55.5
Heavy Trucks:	56.3	54.8	45.8	47.1	55.4	55.6
Vehicle Noise:	64.4	62.7	59.7	54.8	63.4	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	36	78	168	363
CNEL:	39	84	181	390

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Indian Street
Road Segment: North of Gentian Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	7,176 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	718 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	40 mph	**Vehicle Mix**				
Near/Far Lane Distance:	12 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	99.945			
Road Grade:	0.0%	Medium Trucks:	99.856			
Left View:	-90.0 degrees	Heavy Trucks:	99.865			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.88	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-20.12	-4.61	-1.20	-4.59	0.000	0.000
Heavy Trucks:	82.99	-24.07	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.8	55.9	54.2	48.1	56.7	57.3
Medium Trucks:	51.8	50.3	43.9	42.4	50.8	51.1
Heavy Trucks:	53.1	51.7	42.7	43.9	52.3	52.4
Vehicle Noise:	59.8	58.1	54.9	50.3	58.8	59.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	18	39	83	179
CNEL:	19	41	89	192

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Indian Street
Road Segment: South of Iris Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	5,184 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	518 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	40 mph	**Vehicle Mix**				
Near/Far Lane Distance:	12 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.945			
Road Grade:	0.0%	Medium Trucks:	98.856			
Left View:	-90.0 degrees	Heavy Trucks:	98.865			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-4.28	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-21.52	-4.61	-1.20	-4.66	0.000	0.000
Heavy Trucks:	82.99	-25.48	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.4	54.5	52.7	46.7	55.3	55.9
Medium Trucks:	50.4	49.0	42.5	41.0	49.4	49.7
Heavy Trucks:	51.7	50.3	41.2	42.5	50.9	51.0
Vehicle Noise:	58.4	56.7	53.4	48.9	57.4	57.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	14	31	67	146
CNEL:	16	33	72	155

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project — Project Name: Moreno Valley Walmart
Road Name: Indian Street — Job Number: 8870
Road Segment: North of Krameria Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 5,656 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 566 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-3.91	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-21.15	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-25.11	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.8	54.9	53.1	47.1	55.7	56.3
Medium Trucks:	50.8	49.2	42.9	41.3	49.8	50.0
Heavy Trucks:	52.1	50.7	41.6	42.9	51.2	51.3
Vehicle Noise:	58.8	57.1	53.8	49.2	57.8	58.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	15	33	71	153
CNEL:	16	35	76	164

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project — Project Name: Moreno Valley Walmart
Road Name: Indian Street — Job Number: 8870
Road Segment: South of Krameria Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 3,382 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 338 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-6.15	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-23.39	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-27.34	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.5	52.6	50.9	44.8	53.5	54.1
Medium Trucks:	48.5	47.0	40.7	39.1	47.6	47.8
Heavy Trucks:	49.8	48.4	39.4	40.6	49.0	49.1
Vehicle Noise:	56.6	54.8	51.5	47.0	55.5	56.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	11	23	50	109
CNEL:	12	25	54	116

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project — Project Name: Moreno Valley Walmart
Road Name: Indian Street — Job Number: 8870
Road Segment: South of Harley Knox Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 7,700 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 770 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-3.98	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-21.20	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-25.15	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.1	60.2	58.4	52.4	61.0	61.6
Medium Trucks:	55.5	54.0	47.6	46.1	54.5	54.8
Heavy Trucks:	55.5	54.1	45.1	46.3	54.7	54.8
Vehicle Noise:	63.7	61.9	59.0	54.1	62.6	63.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	32	70	150	323
CNEL:	35	75	161	348

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: North of SR-60 WB Ramps

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 34,739 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 3,474 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.59	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-14.65	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.61	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.4	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	62.8	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.9	61.4	52.4	53.7	62.0	62.1
Vehicle Noise:	71.0	69.2	66.3	61.4	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	100	215	462	996
CNEL:	107	231	497	1,071

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: SR-60 WB Ramps to Sunnymead Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 38,972 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 3,897 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.09	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-14.15	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.11	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.9	68.0	66.3	60.2	68.8	69.4
Medium Trucks:	63.3	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	63.4	61.9	52.9	54.2	62.5	62.6
Vehicle Noise:	71.5	69.7	66.8	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	108	232	499	1,075
CNEL:	116	249	537	1,157

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: South of Sunnymead Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 28,304 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,830 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.70	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.54	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.50	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.8	65.9	64.1	58.0	66.7	67.3
Medium Trucks:	61.1	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	61.2	59.8	50.7	52.0	60.3	60.5
Vehicle Noise:	69.3	67.6	64.6	59.7	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	77	166	357	770
CNEL:	83	179	385	829

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project | Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard | Job Number: 8870
Road Segment: North of Eucalyptus Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 24,363 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,436 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.04	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.19	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.15	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.1	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	60.5	59.0	52.6	51.1	59.5	59.8
Heavy Trucks:	60.5	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	68.7	66.9	64.0	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	70	150	323	697
CNEL:	75	162	348	750

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project | Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard | Job Number: 8870
Road Segment: South of Eucalyptus Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 23,121 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,312 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.82	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.42	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.38	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.9	65.0	63.2	57.2	65.8	66.4
Medium Trucks:	60.3	58.8	52.4	50.9	59.3	59.5
Heavy Trucks:	60.3	58.9	49.8	51.1	59.5	59.6
Vehicle Noise:	68.5	66.7	63.7	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	67	145	312	673
CNEL:	72	156	336	724

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project | Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard | Job Number: 8870
Road Segment: North of Cottonwood Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 27,328 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,733 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.54	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.70	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.65	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.6	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	61.0	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	61.0	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	69.2	67.4	64.5	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	75	162	349	752
CNEL:	81	174	376	809

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project | Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard | Job Number: 8870
Road Segment: South of Cottonwood Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 24,413 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,441 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.05	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.18	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.14	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.1	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	60.5	59.0	52.6	51.1	59.6	59.8
Heavy Trucks:	60.5	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	68.7	66.9	64.0	59.1	67.7	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	70	150	324	698
CNEL:	75	162	348	751

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project | Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard | Job Number: 8870
Road Segment: North of Alessandro Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 22,515 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,252 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.70	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.54	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.49	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	64.9	63.1	57.0	65.7	66.3
Medium Trucks:	60.2	58.6	52.3	50.7	59.2	59.4
Heavy Trucks:	60.2	58.8	49.7	51.0	59.3	59.5
Vehicle Noise:	68.3	66.6	63.6	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	66	142	307	661
CNEL:	71	153	330	711

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project | Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard | Job Number: 8870
Road Segment: South of Alessandro Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 22,744 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,274 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.75	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.49	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.45	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	64.9	63.1	57.1	65.7	66.3
Medium Trucks:	60.2	58.7	52.3	50.8	59.2	59.5
Heavy Trucks:	60.2	58.8	49.8	51.0	59.4	59.5
Vehicle Noise:	68.4	66.6	63.7	58.9	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	67	143	308	666
CNEL:	72	154	332	716

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Perris Boulevard
Road Segment: North of Cactus Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 21,068 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,109 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.42	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.82	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.78	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.5	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.9	58.4	52.0	50.5	58.9	59.1
Heavy Trucks:	59.9	58.5	49.4	50.7	59.1	59.2
Vehicle Noise:	68.1	66.3	63.3	58.5	67.0	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	63	136	294	633
CNEL:	68	147	316	681

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Perris Boulevard
Road Segment: South of Cactus Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 22,206 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,221 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.64	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.60	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.55	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.5	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.9	59.4	53.0	51.5	59.9	60.2
Heavy Trucks:	60.9	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	69.1	67.3	64.3	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	74	159	343	739
CNEL:	80	171	369	795

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Perris Boulevard
Road Segment: North of John F. Kennedy Drive
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 19,704 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,970 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.12	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.12	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.07	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.0	65.1	63.3	57.2	65.9	66.5
Medium Trucks:	60.4	58.9	52.5	50.9	59.4	59.6
Heavy Trucks:	60.4	59.0	49.9	51.2	59.5	59.7
Vehicle Noise:	68.5	66.8	63.8	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	68	147	317	682
CNEL:	73	158	341	734

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Perris Boulevard
Road Segment: South of John F. Kennedy Drive
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 23,866 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,389 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.96	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.28	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.24	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.8	65.9	64.1	58.1	66.7	67.3
Medium Trucks:	61.2	59.7	53.3	51.8	60.2	60.5
Heavy Trucks:	61.2	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	69.4	67.6	64.7	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	78	167	360	776
CNEL:	83	180	387	835

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Perris Boulevard
Road Segment: North of Gentian Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 20,952 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,095 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.39	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.85	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.80	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.2	65.3	63.6	57.5	66.1	66.7
Medium Trucks:	60.6	59.1	52.8	51.2	59.7	59.9
Heavy Trucks:	60.7	59.2	50.2	51.5	59.8	59.9
Vehicle Noise:	68.8	67.1	64.1	59.2	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	71	153	330	711
CNEL:	76	165	355	765

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Perris Boulevard
Road Segment: Gentian Avenue to Driveway 3
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 20,799 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,080 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.36	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.88	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.84	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.2	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	60.6	59.1	52.7	51.2	59.6	59.9
Heavy Trucks:	60.6	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	68.8	67.0	64.1	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	71	152	328	707
CNEL:	76	164	353	761

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Perris Boulevard
Road Segment: Driveway 3 to Driveway 4
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 20,727 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,073 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.34	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.90	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.85	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.2	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	60.6	59.1	52.7	51.2	59.6	59.9
Heavy Trucks:	60.6	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	68.8	67.0	64.1	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	71	152	328	706
CNEL:	76	164	352	759

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Perris Boulevard
Road Segment: Driveway 4 to Santiago Drive
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 20,727 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,073 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.34	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.90	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.85	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.2	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	60.6	59.1	52.7	51.2	59.6	59.9
Heavy Trucks:	60.6	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	68.8	67.0	64.1	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	71	152	328	706
CNEL:	76	164	352	759

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Perris Boulevard
Road Segment: Santiago Drive to Iris Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 20,255 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,026 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.24	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.00	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.95	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.1	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	60.5	59.0	52.6	51.1	59.5	59.8
Heavy Trucks:	60.5	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	68.7	66.9	64.0	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	70	150	323	695
CNEL:	75	161	347	748

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Perris Boulevard
Road Segment: South of Iris Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 20,634 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,063 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.32	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.91	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.87	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.2	65.3	63.5	57.4	66.1	66.7
Medium Trucks:	60.6	59.1	52.7	51.1	59.6	59.8
Heavy Trucks:	60.6	59.2	50.1	51.4	59.7	59.9
Vehicle Noise:	68.7	67.0	64.0	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	70	152	327	704
CNEL:	76	163	351	757

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Perris Boulevard
Road Segment: North of Krameria Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 19,513 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,951 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.08	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.16	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.11	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.9	65.0	63.3	57.2	65.8	66.4
Medium Trucks:	60.3	58.8	52.4	50.9	59.4	59.6
Heavy Trucks:	60.4	58.9	49.9	51.1	59.5	59.6
Vehicle Noise:	68.5	66.7	63.8	58.9	67.5	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	68	146	315	678
CNEL:	73	157	339	729

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Perris Boulevard
Road Segment: South of Krameria Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 20,382 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,038 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.27	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.97	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.92	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.1	65.2	63.5	57.4	66.0	66.6
Medium Trucks:	60.5	59.0	52.6	51.1	59.6	59.8
Heavy Trucks:	60.5	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	68.7	66.9	64.0	59.1	67.7	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	70	150	324	698
CNEL:	75	162	349	751

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: North of San Michele Road

SITE SPECIFIC INPUT DATA

Highway Data

- Average Daily Traffic (Adt): 21,605 vehicles
- Peak Hour Percentage: 10%
- Peak Hour Volume: 2,161 vehicles
- Vehicle Speed: 55 mph
- Near/Far Lane Distance: 98 feet

Site Data

- **Barrier Height: 0.0 feet**
- Barrier Type (0-Wall, 1-Berm): 0.0
- Centerline Dist. to Barrier: 100.0 feet
- Centerline Dist. to Observer: 100.0 feet
- Barrier Distance to Observer: 0.0 feet
- Observer Height (Above Pad): 5.0 feet
- Pad Elevation: 0.0 feet
- Road Elevation: 0.0 feet
- Road Grade: 0.0%
- Left View: -90.0 degrees
- Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

- Autos: 15
- Medium Trucks (2 Axles): 15
- Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

- Autos: 0.000
- Medium Trucks: 2.297
- Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

- Autos: 87.316
- Medium Trucks: 87.214
- Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.52	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.72	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.67	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.4	65.5	63.7	57.6	66.3	66.9
Medium Trucks:	60.8	59.3	52.9	51.3	59.8	60.0
Heavy Trucks:	60.8	59.4	50.3	51.6	59.9	60.1
Vehicle Noise:	68.9	67.2	64.2	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	73	158	337	726
CNEL:	78	168	362	781

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: San Michele Road to Nandina Avenue

SITE SPECIFIC INPUT DATA

Highway Data

- Average Daily Traffic (Adt): 21,152 vehicles
- Peak Hour Percentage: 10%
- Peak Hour Volume: 2,115 vehicles
- Vehicle Speed: 55 mph
- Near/Far Lane Distance: 98 feet

Site Data

- **Barrier Height: 0.0 feet**
- Barrier Type (0-Wall, 1-Berm): 0.0
- Centerline Dist. to Barrier: 100.0 feet
- Centerline Dist. to Observer: 100.0 feet
- Barrier Distance to Observer: 0.0 feet
- Observer Height (Above Pad): 5.0 feet
- Pad Elevation: 0.0 feet
- Road Elevation: 0.0 feet
- Road Grade: 0.0%
- Left View: -90.0 degrees
- Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

- Autos: 15
- Medium Trucks (2 Axles): 15
- Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

- Autos: 0.000
- Medium Trucks: 2.297
- Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

- Autos: 87.316
- Medium Trucks: 87.214
- Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.43	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.81	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.76	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.3	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.7	59.2	52.8	51.3	59.7	59.9
Heavy Trucks:	60.7	59.3	50.2	51.5	59.8	60.0
Vehicle Noise:	68.8	67.1	64.1	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	72	154	332	715
CNEL:	77	166	357	770

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: South of Nandina Avenue

SITE SPECIFIC INPUT DATA

Highway Data

- Average Daily Traffic (Adt): 26,908 vehicles
- Peak Hour Percentage: 10%
- Peak Hour Volume: 2,691 vehicles
- Vehicle Speed: 55 mph
- Near/Far Lane Distance: 98 feet

Site Data

- **Barrier Height: 0.0 feet**
- Barrier Type (0-Wall, 1-Berm): 0.0
- Centerline Dist. to Barrier: 100.0 feet
- Centerline Dist. to Observer: 100.0 feet
- Barrier Distance to Observer: 0.0 feet
- Observer Height (Above Pad): 5.0 feet
- Pad Elevation: 0.0 feet
- Road Elevation: 0.0 feet
- Road Grade: 0.0%
- Left View: -90.0 degrees
- Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

- Autos: 15
- Medium Trucks (2 Axles): 15
- Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

- Autos: 0.000
- Medium Trucks: 2.297
- Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

- Autos: 87.316
- Medium Trucks: 87.214
- Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.48	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.76	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.72	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.3	66.4	64.7	58.6	67.2	67.8
Medium Trucks:	61.7	60.2	53.8	52.3	60.8	61.0
Heavy Trucks:	61.8	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	69.9	68.1	65.2	60.3	68.9	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	84	181	390	840
CNEL:	90	195	419	904

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: North of Harley Knox Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

- Average Daily Traffic (Adt): 30,600 vehicles
- Peak Hour Percentage: 10%
- Peak Hour Volume: 3,060 vehicles
- Vehicle Speed: 45 mph
- Near/Far Lane Distance: 24 feet

Site Data

- **Barrier Height: 0.0 feet**
- Barrier Type (0-Wall, 1-Berm): 0.0
- Centerline Dist. to Barrier: 100.0 feet
- Centerline Dist. to Observer: 100.0 feet
- Barrier Distance to Observer: 0.0 feet
- Observer Height (Above Pad): 5.0 feet
- Pad Elevation: 0.0 feet
- Road Elevation: 0.0 feet
- Road Grade: 0.0%
- Left View: -90.0 degrees
- Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

- Autos: 15
- Medium Trucks (2 Axles): 15
- Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

- Autos: 0.000
- Medium Trucks: 2.297
- Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

- Autos: 99.403
- Medium Trucks: 99.314
- Heavy Trucks: 99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	2.91	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-14.33	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-18.29	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.6	63.7	61.9	55.9	64.5	65.1
Medium Trucks:	59.3	57.8	51.5	49.9	58.4	58.6
Heavy Trucks:	60.2	58.8	49.7	51.0	59.3	59.5
Vehicle Noise:	67.4	65.7	62.5	57.9	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	57	124	267	575
CNEL:	62	133	286	617

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: South of Harley Knox Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

- Average Daily Traffic (Adt): 28,100 vehicles
- Peak Hour Percentage: 10%
- Peak Hour Volume: 2,810 vehicles
- Vehicle Speed: 45 mph
- Near/Far Lane Distance: 24 feet

Site Data

- **Barrier Height: 0.0 feet**
- Barrier Type (0-Wall, 1-Berm): 0.0
- Centerline Dist. to Barrier: 100.0 feet
- Centerline Dist. to Observer: 100.0 feet
- Barrier Distance to Observer: 0.0 feet
- Observer Height (Above Pad): 5.0 feet
- Pad Elevation: 0.0 feet
- Road Elevation: 0.0 feet
- Road Grade: 0.0%
- Left View: -90.0 degrees
- Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

- Autos: 15
- Medium Trucks (2 Axles): 15
- Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

- Autos: 0.000
- Medium Trucks: 2.297
- Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

- Autos: 99.403
- Medium Trucks: 99.314
- Heavy Trucks: 99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	2.22	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-15.02	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-18.98	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.9	63.0	61.2	55.2	63.8	64.4
Medium Trucks:	58.7	57.1	50.8	49.2	57.7	57.9
Heavy Trucks:	59.5	58.1	49.0	50.3	58.6	58.8
Vehicle Noise:	66.7	65.0	61.8	57.2	65.7	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	52	111	240	517
CNEL:	56	120	257	555

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: North of Ramona Expressway

SITE SPECIFIC INPUT DATA

Highway Data

- Average Daily Traffic (Adt): 24,300 vehicles
- Peak Hour Percentage: 10%
- Peak Hour Volume: 2,430 vehicles
- Vehicle Speed: 55 mph
- Near/Far Lane Distance: 36 feet

Site Data

- **Barrier Height: 0.0 feet**
- Barrier Type (0-Wall, 1-Berm): 0.0
- Centerline Dist. to Barrier: 100.0 feet
- Centerline Dist. to Observer: 100.0 feet
- Barrier Distance to Observer: 0.0 feet
- Observer Height (Above Pad): 5.0 feet
- Pad Elevation: 0.0 feet
- Road Elevation: 0.0 feet
- Road Grade: 0.0%
- Left View: -90.0 degrees
- Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

- Autos: 15
- Medium Trucks (2 Axles): 15
- Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

- Autos: 0.000
- Medium Trucks: 2.297
- Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

- Autos: 98.494
- Medium Trucks: 98.404
- Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.03	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.20	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.16	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.1	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	60.5	59.0	52.6	51.1	59.5	59.8
Heavy Trucks:	60.5	59.1	50.1	51.3	59.7	59.9
Vehicle Noise:	68.7	66.9	64.0	59.1	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	70	150	323	696
CNEL:	75	161	347	748

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Perris Boulevard
Road Segment: South of Ramona Expressway
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,500 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,550 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.24	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.00	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.95	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.1	66.2	64.4	58.4	67.0	67.6
Medium Trucks:	61.5	60.0	53.6	52.1	60.5	60.8
Heavy Trucks:	61.5	60.1	51.1	52.3	60.7	60.8
Vehicle Noise:	69.7	67.9	65.0	60.1	68.6	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	81	175	376	810
CNEL:	87	188	405	872

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Kitching Street
Road Segment: North of Cactus Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,915 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	792 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-3.84	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-21.08	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-25.03	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.2	60.3	58.6	52.5	61.1	61.7
Medium Trucks:	55.6	54.1	47.7	46.2	54.7	54.9
Heavy Trucks:	55.6	54.2	45.2	46.4	54.8	54.9
Vehicle Noise:	63.8	62.0	59.1	54.2	62.8	63.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	71	153	329
CNEL:	35	76	164	354

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Kitching Street
Road Segment: South of Cactus Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,287 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	929 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.76	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-19.00	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-22.95	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.9	57.0	55.3	49.2	57.8	58.4
Medium Trucks:	52.9	51.4	45.0	43.5	52.0	52.2
Heavy Trucks:	54.2	52.8	43.8	45.0	53.4	53.5
Vehicle Noise:	60.9	59.2	55.9	51.4	59.9	60.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	21	46	99	213
CNEL:	23	49	106	228

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Kitching Street
Road Segment: North of John F. Kennedy Drive
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,821 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	882 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.98	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-19.22	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-23.18	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.7	56.8	55.0	49.0	57.6	58.2
Medium Trucks:	52.7	51.2	44.8	43.3	51.7	52.0
Heavy Trucks:	54.0	52.6	43.5	44.8	53.2	53.3
Vehicle Noise:	60.7	59.0	55.7	51.2	59.7	60.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	21	44	95	206
CNEL:	22	47	102	220

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Kitching Street
Road Segment: South of John F. Kennedy Drive
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,966 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	997 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.45	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-18.69	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-22.65	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.2	57.3	55.6	49.5	58.1	58.8
Medium Trucks:	53.2	51.7	45.3	43.8	52.3	52.5
Heavy Trucks:	54.5	53.1	44.1	45.3	53.7	53.8
Vehicle Noise:	61.3	59.5	56.2	51.7	60.2	60.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	22	48	104	223
CNEL:	24	51	111	239

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Kitching Street
Road Segment: North of Iris Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,405 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	741 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-4.13	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-21.37	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-25.32	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.9	60.0	58.3	52.2	60.8	61.4
Medium Trucks:	55.3	53.8	47.5	45.9	54.4	54.6
Heavy Trucks:	55.4	53.9	44.9	46.2	54.5	54.6
Vehicle Noise:	63.5	61.8	58.8	53.9	62.5	63.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	32	68	146	315
CNEL:	34	73	157	339

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Kitching Street
Road Segment: South of Iris Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 9,231 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 923 vehicles
Vehicle Speed: 45 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.30	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-19.54	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-23.49	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.4	58.5	56.8	50.7	59.3	60.0
Medium Trucks:	54.2	52.7	46.3	44.6	53.2	53.5
Heavy Trucks:	55.0	53.6	44.6	45.8	54.2	54.3
Vehicle Noise:	62.3	60.5	57.4	52.7	61.3	61.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	26	56	121	261
CNEL:	28	60	130	280

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Lasselle Street
Road Segment: North of Iris Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 20,373 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,037 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.27	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.97	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.93	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.3	64.4	62.7	56.6	65.2	65.8
Medium Trucks:	59.7	58.2	51.9	50.3	58.8	59.0
Heavy Trucks:	59.8	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	67.9	66.1	63.2	58.3	66.9	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	62	133	287	619
CNEL:	67	143	309	665

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 Without Project
Road Name: Lasselle Street
Road Segment: South of Iris Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 28,129 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,813 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.67	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.57	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.53	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.7	65.8	64.1	58.0	66.6	67.2
Medium Trucks:	61.1	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	61.2	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	69.3	67.5	64.6	59.7	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	77	165	356	767
CNEL:	83	178	383	825

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Sunnymead Boulevard
Road Segment: Perris Boulevard to SR-60 EB On-Ramp
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 21,444 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,144 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.49	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.75	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.70	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.5	64.7	62.9	56.8	65.5	66.1
Medium Trucks:	59.9	58.4	52.1	50.5	59.0	59.2
Heavy Trucks:	60.0	58.6	49.5	50.8	59.1	59.3
Vehicle Noise:	68.1	66.4	63.4	58.5	67.1	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	64	138	297	640
CNEL:	69	148	320	689

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Eucalyptus Avenue
Road Segment: East of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 8,414 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 841 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.19	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-19.43	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-23.39	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.5	56.6	54.9	48.8	57.4	58.0
Medium Trucks:	52.5	51.0	44.6	43.1	51.5	51.8
Heavy Trucks:	53.8	52.4	43.3	44.6	52.9	53.1
Vehicle Noise:	60.5	58.8	55.5	51.0	59.5	59.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	20	43	93	199
CNEL:	21	46	98	213

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Cottonwood Avenue
Road Segment: West of Indian Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 11,070 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,107 vehicles
Vehicle Speed: 45 mph
Near/Far Lane Distance: 24 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.403
Medium Trucks: 99.314
Heavy Trucks: 99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.51	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-18.75	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-22.70	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.2	59.3	57.5	51.5	60.1	60.7
Medium Trucks:	54.9	53.4	47.1	45.5	54.0	54.2
Heavy Trucks:	55.8	54.4	45.3	46.6	54.9	55.0
Vehicle Noise:	63.0	61.3	58.1	53.4	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	29	63	136	292
CNEL:	31	67	145	313

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project | Project Name: Moreno Valley Walmart
Road Name: Cottonwood Avenue | Job Number: 8870
Road Segment: East of Indian Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,198 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	920 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.403
Medium Trucks:	99.314
Heavy Trucks:	99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.31	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-19.55	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-23.51	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.4	58.5	56.7	50.6	59.3	59.9
Medium Trucks:	54.1	52.6	46.3	44.7	53.2	53.4
Heavy Trucks:	55.0	53.5	44.5	45.8	54.1	54.2
Vehicle Noise:	62.2	60.5	57.3	52.6	61.2	61.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	26	56	120	258
CNEL:	28	60	128	277

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project | Project Name: Moreno Valley Walmart
Road Name: Cottonwood Avenue | Job Number: 8870
Road Segment: West of Perris Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,186 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	919 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.403
Medium Trucks:	99.314
Heavy Trucks:	99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.32	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-19.56	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-23.51	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.4	58.5	56.7	50.6	59.3	59.9
Medium Trucks:	54.1	52.6	46.2	44.7	53.2	53.4
Heavy Trucks:	55.0	53.5	44.5	45.8	54.1	54.2
Vehicle Noise:	62.2	60.5	57.3	52.8	61.2	61.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	26	56	120	258
CNEL:	28	60	128	277

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project | Project Name: Moreno Valley Walmart
Road Name: Cottonwood Avenue | Job Number: 8870
Road Segment: East of Perris Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,620 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	962 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.61	-4.82	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-18.85	-4.81	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-22.80	-4.81	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.1	57.2	55.4	49.4	58.0	58.6
Medium Trucks:	53.1	51.6	45.2	43.6	52.1	52.3
Heavy Trucks:	54.4	53.0	43.9	45.2	53.5	53.7
Vehicle Noise:	61.1	59.4	56.1	51.5	60.1	60.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	22	47	101	218
CNEL:	23	50	108	233

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project | Project Name: Moreno Valley Walmart
Road Name: Alessandro Boulevard | Job Number: 8870
Road Segment: West of Heacock Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,325 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,233 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.27	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-14.97	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.92	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.1	67.2	65.5	59.4	68.0	68.6
Medium Trucks:	62.5	61.0	54.6	53.1	61.6	61.8
Heavy Trucks:	62.5	61.1	52.1	53.3	61.7	61.8
Vehicle Noise:	70.7	68.9	66.0	61.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	95	205	441	949
CNEL:	102	220	474	1,021

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project | Project Name: Moreno Valley Walmart
Road Name: Alessandro Boulevard | Job Number: 8870
Road Segment: East of Heacock Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,591 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,059 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.03	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.20	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.16	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.9	67.0	65.2	59.2	67.8	68.4
Medium Trucks:	62.3	60.8	54.4	52.9	61.3	61.6
Heavy Trucks:	62.3	60.9	51.8	53.1	61.5	61.6
Vehicle Noise:	70.5	68.7	65.7	60.9	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	92	197	425	915
CNEL:	98	212	457	984

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project | Project Name: Moreno Valley Walmart
Road Name: Alessandro Boulevard | Job Number: 8870
Road Segment: West of Indian Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,007 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,801 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.65	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.59	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.54	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.5	66.6	64.8	58.8	67.4	68.0
Medium Trucks:	61.9	60.4	54.0	52.5	60.9	61.2
Heavy Trucks:	61.9	60.5	51.5	52.7	61.1	61.2
Vehicle Noise:	70.1	68.3	65.4	60.5	69.0	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	86	186	400	863
CNEL:	93	200	431	928

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Alessandro Boulevard
Road Segment: East of Indian Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 27,152 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,715 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.52	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.72	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.68	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.4	66.5	64.7	58.6	67.3	67.9
Medium Trucks:	61.8	60.2	53.9	52.3	60.8	61.0
Heavy Trucks:	61.8	60.4	51.3	52.6	60.9	61.1
Vehicle Noise:	69.9	68.2	65.2	60.4	68.9	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	85	182	392	845
CNEL:	91	196	422	909

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Alessandro Boulevard
Road Segment: West of Perris Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 28,462 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,846 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.40	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.83	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.79	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.2	66.4	64.6	58.5	67.2	67.8
Medium Trucks:	61.6	60.1	53.8	52.2	60.7	60.9
Heavy Trucks:	61.7	60.3	51.2	52.5	60.8	61.0
Vehicle Noise:	69.8	68.1	65.1	60.2	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	83	179	386	831
CNEL:	89	193	415	894

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Alessandro Boulevard
Road Segment: East of Perris Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 22,577 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,258 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.71	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.52	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.48	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	64.9	63.1	57.1	65.7	66.3
Medium Trucks:	60.2	58.7	52.3	50.8	59.2	59.4
Heavy Trucks:	60.2	58.8	49.7	51.0	59.3	59.5
Vehicle Noise:	68.4	66.6	63.6	58.8	67.3	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	66	143	307	662
CNEL:	71	154	331	713

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Cactus Avenue
Road Segment: West of I-215 Freeway

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 27,900 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,790 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.63	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.60	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.56	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.7	65.8	64.0	58.0	66.6	67.2
Medium Trucks:	61.1	59.6	53.2	51.7	60.1	60.4
Heavy Trucks:	61.1	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	69.3	67.5	64.6	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	76	164	354	763
CNEL:	82	177	381	821

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Cactus Avenue
Road Segment: I-215 SB Ramps to I-215 NB Ramps

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 42,796 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 4,280 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.49	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.75	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.70	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.6	67.7	65.9	59.8	68.5	69.1
Medium Trucks:	62.9	61.4	55.1	53.5	62.0	62.2
Heavy Trucks:	63.0	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	71.1	69.4	66.4	61.5	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	101	219	471	1,015
CNEL:	109	235	507	1,091

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Cactus Avenue
Road Segment: East of I-215 NB Ramps

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 50,500 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 5,050 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.21	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.03	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.98	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.3	68.4	66.6	60.6	69.2	69.8
Medium Trucks:	63.7	62.2	55.9	54.2	62.7	62.9
Heavy Trucks:	63.7	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	71.9	70.1	67.1	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	113	244	526	1,133
CNEL:	122	263	566	1,219

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Cactus Avenue
Road Segment: West of Elsworth Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	57,600 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	5,760 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.76	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.46	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.41	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.8	68.9	67.2	61.1	69.7	70.4
Medium Trucks:	64.2	62.7	56.4	54.8	63.3	63.5
Heavy Trucks:	64.3	62.8	53.8	55.1	63.4	63.5
Vehicle Noise:	72.4	70.7	67.7	62.8	71.4	71.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	124	268	574	1,237
CNEL:	133	287	618	1,331

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Cactus Avenue
Road Segment: East of Elsworth Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,500 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	5,350 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.46	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.78	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.73	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.3	69.4	67.6	61.6	70.2	70.8
Medium Trucks:	64.7	63.2	56.8	55.3	63.7	64.0
Heavy Trucks:	64.7	63.3	54.3	55.5	63.8	64.0
Vehicle Noise:	72.9	71.1	68.2	63.3	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	133	286	616	1,328
CNEL:	143	308	663	1,429

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Cactus Avenue
Road Segment: West of Frederick Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	55,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	5,510 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.59	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.65	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.61	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.4	69.5	67.8	61.7	70.3	70.8
Medium Trucks:	64.8	63.3	57.0	55.4	63.9	64.1
Heavy Trucks:	64.9	63.4	54.4	55.7	64.0	64.1
Vehicle Noise:	73.0	71.3	68.3	63.4	72.0	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	135	292	629	1,355
CNEL:	146	314	678	1,457

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Cactus Avenue
Road Segment: East of Frederick Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	56,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	5,610 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.67	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.57	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.53	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.5	69.6	67.8	61.8	70.4	71.0
Medium Trucks:	64.9	63.4	57.0	55.5	64.0	64.2
Heavy Trucks:	64.9	63.5	54.5	55.7	64.1	64.2
Vehicle Noise:	73.1	71.3	68.4	63.5	72.1	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	137	295	636	1,371
CNEL:	147	318	685	1,475

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Cactus Avenue
Road Segment: West of Graham Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	54,200 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	5,420 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.52	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.72	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.68	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.4	69.5	67.7	61.6	70.3	70.9
Medium Trucks:	64.8	63.2	56.9	55.3	63.8	64.0
Heavy Trucks:	64.8	63.4	54.3	55.6	63.9	64.1
Vehicle Noise:	72.9	71.2	68.2	63.4	71.9	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	134	289	622	1,340
CNEL:	144	311	669	1,441

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Cactus Avenue
Road Segment: East of Graham Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,900 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,290 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.50	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.74	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.69	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.3	68.4	66.7	60.6	69.3	69.9
Medium Trucks:	63.7	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	63.8	62.4	53.3	54.6	62.9	63.0
Vehicle Noise:	71.9	70.2	67.2	62.3	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	115	247	532	1,146
CNEL:	123	266	572	1,233

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Cactus Avenue
Road Segment: West of Heacock Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 38,853 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 3,885 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.07	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-14.17	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.12	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.9	68.0	66.3	60.2	68.8	69.4
Medium Trucks:	63.3	61.8	55.4	53.9	62.4	62.6
Heavy Trucks:	63.3	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	71.5	69.7	66.8	61.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	107	231	498	1,073
CNEL:	115	249	536	1,154

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Cactus Avenue
Road Segment: East of Heacock Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 28,606 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,861 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.74	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.50	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.46	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.8	65.9	64.1	58.1	66.7	67.3
Medium Trucks:	61.2	59.7	53.3	51.8	60.2	60.5
Heavy Trucks:	61.2	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	69.4	67.6	64.7	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	78	167	360	776
CNEL:	83	180	387	834

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Cactus Avenue
Road Segment: West of Indian Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 25,728 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,573 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.28	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.96	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.91	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.3	65.4	63.7	57.6	66.2	66.8
Medium Trucks:	60.7	59.2	52.8	51.3	59.8	60.0
Heavy Trucks:	60.8	59.3	50.3	51.6	59.9	60.0
Vehicle Noise:	68.9	67.2	64.2	59.3	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	72	156	335	723
CNEL:	78	167	361	777

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Cactus Avenue
Road Segment: East of Indian Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 23,769 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,377 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.94	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.30	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.26	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.0	65.1	63.3	57.3	65.9	66.5
Medium Trucks:	60.4	58.9	52.5	51.0	59.4	59.7
Heavy Trucks:	60.4	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	68.6	66.8	63.9	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	69	148	318	686
CNEL:	74	159	342	737

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Cactus Avenue
Road Segment: West of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 21,292 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,129 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.46	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.78	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.73	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.5	64.6	62.9	56.9	65.4	66.0
Medium Trucks:	59.9	58.4	52.0	50.5	59.0	59.2
Heavy Trucks:	59.9	58.5	49.5	50.7	59.1	59.2
Vehicle Noise:	68.1	66.3	63.4	58.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	64	137	296	637
CNEL:	69	148	318	685

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Cactus Avenue
Road Segment: East of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 19,984 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,998 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.18	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.05	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.01	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.2	64.3	62.6	56.5	65.1	65.6
Medium Trucks:	59.6	58.1	51.8	50.2	58.7	58.9
Heavy Trucks:	59.7	58.3	49.2	50.5	58.8	58.9
Vehicle Noise:	67.8	66.1	63.1	58.2	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	61	132	283	611
CNEL:	66	142	305	657

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project — Project Name: Moreno Valley Walmart
Road Name: Cactus Avenue — Job Number: 8870
Road Segment: East of Kitching Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 15,517 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,552 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.91	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.15	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.11	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.1	63.2	61.5	55.4	64.0	64.7
Medium Trucks:	58.5	57.0	50.7	49.1	57.6	57.8
Heavy Trucks:	58.8	57.2	48.1	49.4	57.7	57.8
Vehicle Noise:	66.7	65.0	62.0	57.1	65.7	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	52	111	239	516
CNEL:	55	120	258	555

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project — Project Name: Moreno Valley Walmart
Road Name: John F. Kennedy Drive — Job Number: 8870
Road Segment: West of Heacock Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 9,510 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 951 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-3.04	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-20.28	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-24.23	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.0	61.1	59.4	53.3	61.9	62.5
Medium Trucks:	56.4	54.9	48.5	47.0	55.5	55.7
Heavy Trucks:	56.4	55.0	46.0	47.2	55.6	55.7
Vehicle Noise:	64.6	62.8	59.9	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	37	80	173	372
CNEL:	40	86	186	400

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project — Project Name: Moreno Valley Walmart
Road Name: John F. Kennedy Drive — Job Number: 8870
Road Segment: East of Heacock Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 11,185 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,119 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-2.34	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.57	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.53	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.7	61.8	60.1	54.0	62.6	63.2
Medium Trucks:	57.1	55.6	49.2	47.7	56.2	56.4
Heavy Trucks:	57.2	55.7	46.7	47.9	56.3	56.4
Vehicle Noise:	65.3	63.5	60.6	55.7	64.3	64.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	41	89	193	415
CNEL:	45	96	207	446

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project — Project Name: Moreno Valley Walmart
Road Name: John F. Kennedy Drive — Job Number: 8870
Road Segment: West of Indian Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 11,022 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,102 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-2.40	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.64	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.59	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.7	61.8	60.0	53.9	62.6	63.2
Medium Trucks:	57.1	55.5	49.2	47.6	56.1	56.3
Heavy Trucks:	57.1	55.7	46.6	47.9	56.2	56.4
Vehicle Noise:	65.2	63.5	60.5	55.6	64.2	64.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	41	88	191	411
CNEL:	44	95	205	442

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project — Project Name: Moreno Valley Walmart
Road Name: John F. Kennedy Drive — Job Number: 8870
Road Segment: East of Indian Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 11,420 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,142 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-2.25	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.48	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.44	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.8	61.9	60.1	54.1	62.7	63.3
Medium Trucks:	57.2	55.7	49.3	47.8	56.3	56.5
Heavy Trucks:	57.2	55.8	46.8	48.0	56.4	56.5
Vehicle Noise:	65.4	63.6	60.7	55.8	64.4	64.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	42	91	195	421
CNEL:	45	97	210	452

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project — Project Name: Moreno Valley Walmart
Road Name: John F. Kennedy Drive — Job Number: 8870
Road Segment: West of Perris Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 11,963 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,196 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-2.04	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.28	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.24	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.0	62.1	60.4	54.3	62.9	63.5
Medium Trucks:	57.4	55.9	49.5	48.0	56.5	56.7
Heavy Trucks:	57.4	56.0	47.0	48.2	56.6	56.7
Vehicle Noise:	65.6	63.8	60.9	56.0	64.6	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	43	93	201	434
CNEL:	47	101	217	467

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project — Project Name: Moreno Valley Walmart
Road Name: John F. Kennedy Drive — Job Number: 8870
Road Segment: East of Perris Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 13,081 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,308 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.66	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.90	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.86	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.4	62.5	60.7	54.7	63.3	63.9
Medium Trucks:	57.8	56.3	49.9	48.4	56.8	57.1
Heavy Trucks:	57.8	56.4	47.4	48.6	57.0	57.1
Vehicle Noise:	66.0	64.2	61.3	56.4	64.9	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	46	99	213	460
CNEL:	49	107	230	495

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project — Project Name: Moreno Valley Walmart
Road Name: John F. Kennedy Drive — Job Number: 8870
Road Segment: West of Kitching Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 12,058 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,206 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-2.01	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.25	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.20	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.1	62.2	60.4	54.3	63.0	63.6
Medium Trucks:	57.4	55.9	49.6	48.0	56.5	56.7
Heavy Trucks:	57.5	56.1	47.0	48.3	56.6	56.8
Vehicle Noise:	65.6	63.9	60.9	56.0	64.6	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	44	94	202	436
CNEL:	47	101	218	469

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project — Project Name: Moreno Valley Walmart
Road Name: John F. Kennedy Drive — Job Number: 8870
Road Segment: East of Kitching Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 8,488 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 850 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-3.53	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-20.77	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-24.72	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.5	60.8	58.9	52.8	61.4	62.0
Medium Trucks:	55.9	54.4	48.1	46.5	55.0	55.2
Heavy Trucks:	56.0	54.5	45.5	46.8	55.1	55.2
Vehicle Noise:	64.1	62.3	59.4	54.5	63.1	63.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	35	74	160	345
CNEL:	37	80	172	371

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project — Project Name: Moreno Valley Walmart
Road Name: Gentian Avenue — Job Number: 8870
Road Segment: West of Indian Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 1,966 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 197 vehicles
Vehicle Speed: 45 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-9.02	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-26.25	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-30.21	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.7	51.8	50.1	44.0	52.6	53.2
Medium Trucks:	47.5	46.0	39.6	38.1	46.5	46.8
Heavy Trucks:	48.3	46.9	37.9	39.1	47.5	47.6
Vehicle Noise:	55.6	53.8	50.7	46.0	54.5	55.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	9	20	43	93
CNEL:	10	22	46	100

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project — Project Name: Moreno Valley Walmart
Road Name: Gentian Avenue — Job Number: 8870
Road Segment: East of Perris Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 2,867 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 287 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-8.87	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-24.10	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-28.06	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.8	51.9	50.2	44.1	52.7	53.3
Medium Trucks:	47.8	46.3	39.9	38.4	46.8	47.1
Heavy Trucks:	49.1	47.7	38.7	39.9	48.3	48.4
Vehicle Noise:	55.8	54.1	50.8	46.3	54.8	55.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	10	21	45	97
CNEL:	10	22	48	104

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project — Project Name: Moreno Valley Walmart
Road Name: Santiago Drive — Job Number: 8870
Road Segment: East of Perris Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 3,332 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 333 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-6.21	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-23.45	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-27.41	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.5	52.8	50.8	44.8	53.4	54.0
Medium Trucks:	48.5	46.9	40.6	39.0	47.5	47.7
Heavy Trucks:	49.8	48.4	39.3	40.6	48.9	49.1
Vehicle Noise:	56.5	54.9	51.5	46.9	55.5	55.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	11	23	50	107
CNEL:	12	25	53	115

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Iris Avenue
Road Segment: West of Indian Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 11,189 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,119 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.95	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-18.19	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-22.15	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.7	57.8	56.1	50.0	58.6	59.3
Medium Trucks:	53.7	52.2	45.8	44.3	52.8	53.0
Heavy Trucks:	55.0	53.6	44.6	45.8	54.2	54.3
Vehicle Noise:	61.8	60.0	56.7	52.2	60.7	61.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	24	52	112	241
CNEL:	26	56	120	258

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Iris Avenue
Road Segment: East of Indian Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 14,372 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,437 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.25	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.49	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.44	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.8	62.9	61.1	55.1	63.7	64.3
Medium Trucks:	58.2	56.7	50.3	48.8	57.3	57.5
Heavy Trucks:	58.2	56.8	47.8	49.0	57.4	57.5
Vehicle Noise:	66.4	64.6	61.7	56.8	65.4	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	49	106	228	490
CNEL:	53	114	245	527

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Iris Avenue
Road Segment: West of Perris Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 14,970 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,497 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.07	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.31	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.28	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.0	63.1	61.3	55.3	63.9	64.5
Medium Trucks:	58.4	56.9	50.5	49.0	57.4	57.7
Heavy Trucks:	58.4	57.0	48.0	49.2	57.6	57.7
Vehicle Noise:	66.6	64.8	61.9	57.0	65.5	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	109	234	504
CNEL:	54	117	252	542

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Iris Avenue
Road Segment: East of Perris Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 18,807 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,881 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.08	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.32	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.27	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.0	64.1	62.3	56.3	64.9	65.5
Medium Trucks:	59.4	57.9	51.5	50.0	58.4	58.7
Heavy Trucks:	59.4	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	67.6	65.8	62.8	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	59	128	272	586
CNEL:	63	136	293	631

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Iris Avenue
Road Segment: West of Kitching Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 22,121 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,212 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.63	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.61	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.57	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.7	64.8	63.0	57.0	65.6	66.2
Medium Trucks:	60.1	58.6	52.2	50.7	59.1	59.4
Heavy Trucks:	60.1	58.7	49.7	50.9	59.3	59.4
Vehicle Noise:	68.3	66.5	63.5	58.7	67.2	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	65	141	303	653
CNEL:	70	151	326	703

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Iris Avenue
Road Segment: East of Kitching Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 23,021 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,302 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.318
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.80	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.44	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.40	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.6	65.7	64.0	57.9	66.5	67.2
Medium Trucks:	61.0	59.5	53.2	51.6	60.1	60.3
Heavy Trucks:	61.1	59.7	50.6	51.9	60.2	60.3
Vehicle Noise:	69.2	67.5	64.5	59.6	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	76	163	351	757
CNEL:	81	175	378	814

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Iris Avenue
Road Segment: West of Lasselle Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	20,757 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	2,076 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	99 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	97.316			
Road Grade:	0.0%	Medium Trucks:	97.214			
Left View:	-90.0 degrees	Heavy Trucks:	97.224			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.35	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.86	-3.73	-1.20	-4.59	0.000	0.000
Heavy Trucks:	86.40	-20.86	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.2	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	59.8	59.1	52.7	51.2	59.6	59.9
Heavy Trucks:	60.6	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	68.8	67.0	64.1	58.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	71	152	328	707
CNEL:	76	164	353	760

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Iris Avenue
Road Segment: East of Lasselle Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	23,993 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	2,399 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	99 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	97.316			
Road Grade:	0.0%	Medium Trucks:	97.214			
Left View:	-90.0 degrees	Heavy Trucks:	97.224			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.82	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.32	-3.73	-1.20	-4.59	0.000	0.000
Heavy Trucks:	86.40	-20.27	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.8	65.9	64.1	58.0	66.7	67.3
Medium Trucks:	61.2	59.7	52.3	51.7	59.2	59.4
Heavy Trucks:	61.2	59.8	50.7	52.0	60.3	60.5
Vehicle Noise:	69.3	67.5	64.6	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	77	166	358	771
CNEL:	83	179	385	830

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Krameria Avenue
Road Segment: East of Indian Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	3,502 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	350 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	45 mph	**Vehicle Mix**				
Near/Far Lane Distance:	24 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.403			
Road Grade:	0.0%	Medium Trucks:	98.314			
Left View:	-90.0 degrees	Heavy Trucks:	98.323			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-6.51	-4.56	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-23.75	-4.57	-1.20	-4.60	0.000	0.000
Heavy Trucks:	84.25	-27.70	-4.57	-1.20	-5.18	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.2	54.3	52.5	46.5	55.1	55.7
Medium Trucks:	49.9	49.4	42.1	40.5	49.0	49.2
Heavy Trucks:	50.8	49.4	40.3	41.8	49.9	50.0
Vehicle Noise:	59.0	56.9	53.1	48.4	57.6	57.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	14	29	63	136
CNEL:	16	31	67	145

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Krameria Avenue
Road Segment: West of Ferris Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	4,578 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	458 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	40 mph	**Vehicle Mix**				
Near/Far Lane Distance:	12 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	99.945			
Road Grade:	0.0%	Medium Trucks:	99.856			
Left View:	-90.0 degrees	Heavy Trucks:	99.865			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-4.93	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-22.07	-4.61	-1.20	-4.60	0.000	0.000
Heavy Trucks:	82.99	-26.02	-4.61	-1.20	-5.18	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.9	54.0	52.2	46.1	54.8	55.4
Medium Trucks:	48.8	48.3	42.0	40.4	48.9	49.1
Heavy Trucks:	51.2	49.7	40.7	41.8	50.3	50.4
Vehicle Noise:	57.8	56.1	52.8	48.3	56.9	57.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	13	29	62	133
CNEL:	14	31	66	142

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Krameria Avenue
Road Segment: East of Perris Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	9,294 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	929 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	99.494			
Road Grade:	0.0%	Medium Trucks:	99.404			
Left View:	-90.0 degrees	Heavy Trucks:	99.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-3.17	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-20.41	-4.51	-1.20	-4.59	0.000	0.000
Heavy Trucks:	86.40	-24.36	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.8	61.0	59.2	53.2	61.9	62.4
Medium Trucks:	56.3	54.8	48.4	46.9	55.3	55.6
Heavy Trucks:	56.3	54.9	45.9	47.1	55.5	55.8
Vehicle Noise:	64.5	62.7	59.8	54.9	63.4	63.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	36	78	169	365
CNEL:	38	85	182	393

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Harley Knox Boulevard
Road Segment: West of Webster Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	33,181 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	3,318 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	45 mph	**Vehicle Mix**				
Near/Far Lane Distance:	24 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.403			
Road Grade:	0.0%	Medium Trucks:	98.314			
Left View:	-90.0 degrees	Heavy Trucks:	98.323			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.28	-4.56	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-19.99	-4.57	-1.20	-4.60	0.000	0.000
Heavy Trucks:	84.25	-17.93	-4.57	-1.20	-5.18	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.9	64.0	62.3	56.2	64.8	65.4
Medium Trucks:	59.7	59.2	51.8	50.3	59.7	59.9
Heavy Trucks:	60.5	59.1	50.1	51.3	59.7	59.8
Vehicle Noise:	67.9	66.0	62.9	58.2	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	61	131	282	607
CNEL:	66	140	302	651

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Harley Knox Boulevard
Road Segment: East of Webster Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,501 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,350 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.403
Medium Trucks:	99.314
Heavy Trucks:	99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	3.30	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-13.94	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-17.89	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.0	64.1	62.3	56.3	64.9	65.5
Medium Trucks:	59.7	58.2	51.9	50.3	58.8	59.0
Heavy Trucks:	60.6	59.2	50.1	51.4	59.7	59.9
Vehicle Noise:	67.8	66.1	62.9	58.2	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	61	132	284	611
CNEL:	66	141	304	655

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Harley Knox Boulevard
Road Segment: West of Indian Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,678 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,168 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.19	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.05	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.01	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.2	66.3	64.6	58.5	67.1	67.8
Medium Trucks:	61.6	60.1	53.8	52.2	60.7	60.9
Heavy Trucks:	61.7	60.3	51.2	52.5	60.8	60.9
Vehicle Noise:	69.8	68.1	65.1	60.2	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	83	179	385	830
CNEL:	89	192	415	893

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Harley Knox Boulevard
Road Segment: East of Indian Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,274 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,327 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.59	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.83	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.79	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.5	62.6	60.8	54.7	63.4	64.0
Medium Trucks:	57.9	56.4	50.0	48.4	56.9	57.1
Heavy Trucks:	57.9	56.5	47.4	48.7	57.0	57.2
Vehicle Noise:	66.0	64.3	61.3	56.5	65.0	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	46	100	216	465
CNEL:	50	108	232	500

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Harley Knox Boulevard
Road Segment: West of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,274 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,327 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.403
Medium Trucks:	99.314
Heavy Trucks:	99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.72	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-17.96	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-21.92	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.0	60.1	58.3	52.2	60.9	61.5
Medium Trucks:	55.7	54.2	47.6	46.3	54.8	55.0
Heavy Trucks:	56.6	55.1	46.1	47.4	55.7	55.8
Vehicle Noise:	63.8	62.1	58.9	54.2	62.8	63.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	71	153	329
CNEL:	35	76	164	353

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Ramona Expressway
Road Segment: West of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,492 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,749 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.92	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-14.32	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.28	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.8	67.9	66.1	60.0	68.7	69.3
Medium Trucks:	63.2	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	63.2	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	71.3	69.6	66.6	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	105	226	486	1,048
CNEL:	113	243	523	1,127

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Ramona Expressway
Road Segment: East of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,885 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,489 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.60	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-14.63	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.59	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.4	67.6	65.8	59.7	68.4	69.0
Medium Trucks:	62.8	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.9	61.5	52.4	53.7	62.0	62.2
Vehicle Noise:	71.0	69.3	66.3	61.4	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	100	215	464	999
CNEL:	107	231	499	1,074

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project — Project Name: Moreno Valley Walmart
Road Name: Frederick Street — Job Number: 8870
Road Segment: North of Cactus Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,700 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,170 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-2.14	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.38	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.33	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.9	62.0	60.3	54.2	62.8	63.4
Medium Trucks:	57.3	55.8	49.4	47.9	56.4	56.8
Heavy Trucks:	57.3	55.9	46.9	48.1	56.5	56.6
Vehicle Noise:	65.5	63.7	60.8	55.9	64.5	64.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	43	92	198	427
CNEL:	46	99	213	460

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project — Project Name: Moreno Valley Walmart
Road Name: Heacock Street — Job Number: 8870
Road Segment: North of Alessandro Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,220 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,722 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.46	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.70	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.66	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.6	63.7	61.9	55.9	64.5	65.1
Medium Trucks:	59.0	57.5	51.1	49.6	58.0	58.3
Heavy Trucks:	59.0	57.6	48.6	49.8	58.2	58.3
Vehicle Noise:	67.2	65.4	62.5	57.6	66.1	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	55	119	257	553
CNEL:	59	126	276	595

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project — Project Name: Moreno Valley Walmart
Road Name: Heacock Street — Job Number: 8870
Road Segment: North of Cactus Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,657 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,266 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.80	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.04	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.99	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.3	62.4	60.6	54.5	63.2	63.8
Medium Trucks:	57.7	56.1	49.8	48.2	56.7	56.9
Heavy Trucks:	57.7	56.3	47.2	48.5	56.8	57.0
Vehicle Noise:	65.8	64.1	61.1	56.3	64.8	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	45	97	209	450
CNEL:	48	104	225	485

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project — Project Name: Moreno Valley Walmart
Road Name: Indian Street — Job Number: 8870
Road Segment: North of Cottonwood Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,843 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	884 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.845
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.97	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-19.21	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-23.17	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.7	56.8	55.1	49.0	57.6	58.2
Medium Trucks:	52.7	51.2	44.8	43.3	51.7	52.0
Heavy Trucks:	54.0	52.6	43.6	44.8	53.2	53.3
Vehicle Noise:	60.7	59.0	55.7	51.2	59.7	60.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	21	44	96	206
CNEL:	22	48	102	221

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project — Project Name: Moreno Valley Walmart
Road Name: Indian Street — Job Number: 8870
Road Segment: North of Alessandro Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,747 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,175 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-2.12	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.36	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.32	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.9	62.0	60.3	54.2	62.8	63.4
Medium Trucks:	57.3	55.8	49.5	47.9	56.4	56.6
Heavy Trucks:	57.4	55.9	46.9	48.2	56.5	56.6
Vehicle Noise:	65.5	63.8	60.8	55.9	64.5	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	43	92	199	429
CNEL:	46	99	214	461

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project — Project Name: Moreno Valley Walmart
Road Name: Indian Street — Job Number: 8870
Road Segment: North of Cactus Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,818 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,282 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.81	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.05	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.01	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.2	62.3	60.6	54.5	63.2	63.8
Medium Trucks:	57.6	56.1	49.8	48.2	56.7	56.9
Heavy Trucks:	57.7	56.3	47.2	48.5	56.8	56.9
Vehicle Noise:	65.8	64.1	61.1	56.2	64.8	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	45	97	208	449
CNEL:	48	104	224	483

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Indian Street
Road Segment: South of John F. Kennedy Drive
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	9,948 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	955 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.76	-3.12	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-20.95	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-24.31	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.9	61.0	59.3	53.2	61.8	62.5
Medium Trucks:	58.3	54.8	48.5	46.9	55.4	55.6
Heavy Trucks:	58.4	55.0	45.9	47.2	55.5	55.6
Vehicle Noise:	64.5	62.0	59.6	54.9	62.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	37	79	171	366
CNEL:	40	85	184	396

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Indian Street
Road Segment: North of Gentian Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	1,272 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	127 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	40 mph	**Vehicle Mix**				
Near/Far Lane Distance:	12 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	99.945			
Road Grade:	0.0%	Medium Trucks:	99.856			
Left View:	-90.0 degrees	Heavy Trucks:	99.865			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.82	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-20.66	-4.51	-1.20	-4.89	0.000	0.000
Heavy Trucks:	82.99	-24.02	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.8	56.0	54.2	48.2	56.8	57.4
Medium Trucks:	51.8	50.3	44.0	42.4	50.9	51.1
Heavy Trucks:	53.2	51.7	42.7	44.0	52.3	52.4
Vehicle Noise:	58.9	56.2	54.9	50.3	58.0	58.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	18	39	84	181
CNEL:	19	42	90	194

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Indian Street
Road Segment: South of Iris Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	5,386 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	538 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	40 mph	**Vehicle Mix**				
Near/Far Lane Distance:	12 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.945			
Road Grade:	0.0%	Medium Trucks:	98.856			
Left View:	-90.0 degrees	Heavy Trucks:	98.865			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-4.13	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-21.97	-4.51	-1.20	-4.89	0.000	0.000
Heavy Trucks:	82.99	-25.32	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.6	54.7	52.9	46.8	55.5	56.1
Medium Trucks:	50.5	49.0	42.7	41.1	49.6	49.8
Heavy Trucks:	51.9	50.4	41.4	42.7	51.0	51.1
Vehicle Noise:	58.6	56.0	53.6	48.0	57.6	58.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	16	32	69	148
CNEL:	16	34	74	159

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Indian Street
Road Segment: North of Krameria Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	5,848 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	565 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	40 mph	**Vehicle Mix**				
Near/Far Lane Distance:	12 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	99.945			
Road Grade:	0.0%	Medium Trucks:	99.856			
Left View:	-90.0 degrees	Heavy Trucks:	99.865			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-3.77	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-21.01	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-24.96	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.9	58.0	53.5	47.2	58.8	59.4
Medium Trucks:	50.9	49.4	43.0	41.5	49.9	50.2
Heavy Trucks:	52.2	50.8	41.8	43.0	51.4	51.5
Vehicle Noise:	58.8	57.2	53.8	48.4	57.9	58.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	16	34	73	156
CNEL:	17	36	78	167

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Indian Street
Road Segment: South of Krameria Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	3,476 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	348 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	40 mph	**Vehicle Mix**				
Near/Far Lane Distance:	12 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	99.945			
Road Grade:	0.0%	Medium Trucks:	99.856			
Left View:	-90.0 degrees	Heavy Trucks:	99.865			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-6.03	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-23.26	-4.51	-1.20	-4.89	0.000	0.000
Heavy Trucks:	82.99	-27.22	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.7	52.8	51.0	45.0	53.6	54.2
Medium Trucks:	48.6	47.1	40.8	39.2	47.7	47.9
Heavy Trucks:	50.0	48.5	39.5	40.8	49.1	49.2
Vehicle Noise:	56.7	54.9	51.7	47.1	55.7	56.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	11	24	51	111
CNEL:	12	26	55	118

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Indian Street
Road Segment: South of Harley Knox Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	7,786 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	780 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.76	-3.60	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-21.14	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-25.10	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.2	60.3	58.5	52.4	61.1	61.7
Medium Trucks:	55.5	54.0	47.7	46.1	54.6	54.8
Heavy Trucks:	55.6	54.2	45.1	46.4	54.7	54.9
Vehicle Noise:	63.7	62.0	59.0	54.1	62.7	63.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	70	151	326
CNEL:	35	76	163	351

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Perris Boulevard
Road Segment: North of SR-60 WB Ramps

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,931 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,493 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.61	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-14.63	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.58	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.5	67.6	65.8	59.7	68.4	69.0
Medium Trucks:	62.8	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.9	61.5	52.4	53.7	62.0	62.2
Vehicle Noise:	71.0	69.3	66.3	61.4	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	100	215	464	1,000
CNEL:	108	232	499	1,075

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Perris Boulevard
Road Segment: SR-60 WB Ramps to Sunnymead Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,260 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,926 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.12	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-14.12	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.08	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.0	68.1	66.3	60.2	68.9	69.5
Medium Trucks:	63.4	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	63.4	62.0	52.9	54.2	62.5	62.7
Vehicle Noise:	71.5	69.8	66.8	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	108	233	502	1,081
CNEL:	116	250	540	1,162

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Perris Boulevard
Road Segment: South of Sunnymead Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,688 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,869 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.75	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.48	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.44	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.8	65.9	64.2	58.1	66.7	67.3
Medium Trucks:	61.2	59.7	53.3	51.8	60.3	60.5
Heavy Trucks:	61.2	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	69.4	67.6	64.7	59.8	68.4	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	78	167	361	777
CNEL:	84	180	388	836

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Perris Boulevard
Road Segment: North of Eucalyptus Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,748 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,475 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.11	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.13	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.08	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.2	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	60.6	59.1	52.7	51.2	59.6	59.8
Heavy Trucks:	60.6	59.2	50.1	51.4	59.7	59.9
Vehicle Noise:	68.8	67.0	64.0	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	70	152	327	704
CNEL:	76	163	352	758

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Perris Boulevard
Road Segment: South of Eucalyptus Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,698 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,370 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.92	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.31	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.27	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.0	65.1	63.3	57.3	65.9	66.5
Medium Trucks:	60.4	58.9	52.5	51.0	59.4	59.7
Heavy Trucks:	60.4	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	68.6	66.8	63.8	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	68	147	318	684
CNEL:	74	159	342	736

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Perris Boulevard
Road Segment: North of Cottonwood Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,800 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.65	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.59	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.55	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.7	65.8	64.0	58.0	66.6	67.2
Medium Trucks:	61.1	59.6	53.2	51.7	60.1	60.4
Heavy Trucks:	61.1	59.7	50.7	51.9	60.3	60.4
Vehicle Noise:	69.3	67.5	64.6	59.7	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	76	165	355	765
CNEL:	82	177	382	823

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Perris Boulevard
Road Segment: South of Cottonwood Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 25,953 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,595 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.32	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.92	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.87	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.4	65.5	63.7	57.7	66.3	66.9
Medium Trucks:	60.8	59.3	52.9	51.4	59.8	60.0
Heavy Trucks:	60.8	59.4	50.3	51.6	60.0	60.1
Vehicle Noise:	69.0	67.2	64.2	59.4	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	73	157	337	727
CNEL:	78	168	363	782

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Perris Boulevard
Road Segment: North of Alessandro Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 24,056 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,406 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.89	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.25	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.20	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.1	65.2	63.4	57.3	66.0	66.6
Medium Trucks:	60.4	58.9	52.6	51.0	59.5	59.7
Heavy Trucks:	60.5	59.1	50.0	51.3	59.6	59.8
Vehicle Noise:	68.6	66.9	63.9	59.0	67.6	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	69	149	321	691
CNEL:	74	160	345	743

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Perris Boulevard
Road Segment: South of Alessandro Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 25,438 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,544 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.23	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.01	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.96	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.3	65.4	63.6	57.6	66.2	66.8
Medium Trucks:	60.7	59.2	52.8	51.3	59.7	60.0
Heavy Trucks:	60.7	59.3	50.3	51.5	59.9	60.0
Vehicle Noise:	68.9	67.1	64.2	59.3	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	72	155	333	717
CNEL:	77	166	358	772

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Perris Boulevard
Road Segment: North of Cactus Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 23,879 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,388 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.96	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.28	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.24	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.0	65.1	63.4	57.3	65.9	66.5
Medium Trucks:	60.4	58.9	52.5	51.0	59.5	59.7
Heavy Trucks:	60.4	59.0	50.0	51.2	59.6	59.7
Vehicle Noise:	68.6	66.8	63.9	59.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	69	148	319	688
CNEL:	74	159	343	740

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Perris Boulevard
Road Segment: South of Cactus Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 28,056 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,806 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.34	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.90	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.86	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.2	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	61.6	60.1	53.7	52.2	60.6	60.9
Heavy Trucks:	61.6	60.2	51.2	52.4	60.8	60.9
Vehicle Noise:	69.8	68.0	65.0	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	82	177	382	822
CNEL:	88	191	411	884

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Perris Boulevard
Road Segment: North of John F. Kennedy Drive

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 23,554 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,355 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.90	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.34	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.30	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.7	65.8	64.1	58.0	66.6	67.3
Medium Trucks:	61.1	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	61.2	59.8	50.7	52.0	60.3	60.4
Vehicle Noise:	69.3	67.6	64.6	59.7	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	77	166	357	769
CNEL:	83	178	384	827

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Perris Boulevard
Road Segment: South of John F. Kennedy Drive
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,180 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,918 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.83	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.41	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.37	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.7	66.8	65.0	59.0	67.6	68.2
Medium Trucks:	62.1	60.6	54.2	52.7	61.1	61.3
Heavy Trucks:	62.1	60.7	51.6	52.9	61.2	61.4
Vehicle Noise:	70.3	68.5	65.5	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	89	191	412	887
CNEL:	95	206	443	954

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Perris Boulevard
Road Segment: North of Gentian Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,246 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,625 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.37	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.87	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.83	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.2	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	61.6	60.1	53.7	52.2	60.7	60.9
Heavy Trucks:	61.6	60.2	51.2	52.4	60.8	60.9
Vehicle Noise:	69.8	68.0	65.1	60.2	68.8	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	83	178	383	826
CNEL:	89	191	413	889

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Perris Boulevard
Road Segment: Gentian Avenue to Driveway 3
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,805 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,581 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.28	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.84	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.80	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.1	66.2	64.5	58.4	67.0	67.6
Medium Trucks:	61.5	60.0	53.7	52.1	60.6	60.8
Heavy Trucks:	61.6	60.1	51.1	52.4	60.7	60.8
Vehicle Noise:	69.7	68.0	65.0	60.1	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	82	176	379	817
CNEL:	88	189	408	879

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Perris Boulevard
Road Segment: Driveway 3 to Driveway 4
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,385 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,439 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.05	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.19	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.15	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.9	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	61.3	59.8	53.4	51.9	60.3	60.6
Heavy Trucks:	61.3	59.9	50.9	52.1	60.5	60.6
Vehicle Noise:	69.5	67.7	64.8	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	79	169	365	787
CNEL:	85	182	393	846

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Perris Boulevard
Road Segment: Driveway 4 to Santiago Drive
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,144 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,414 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.01	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.23	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.19	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.9	66.0	64.2	58.1	66.8	67.4
Medium Trucks:	61.2	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	61.3	59.9	50.8	52.1	60.4	60.6
Vehicle Noise:	69.4	67.7	64.7	59.8	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	78	168	363	781
CNEL:	84	181	390	841

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Perris Boulevard
Road Segment: Santiago Drive to Iris Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,201 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,420 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.02	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.22	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.18	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.9	66.0	64.2	58.1	66.8	67.4
Medium Trucks:	61.3	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	61.3	59.9	50.8	52.1	60.4	60.6
Vehicle Noise:	69.4	67.7	64.7	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	78	169	363	783
CNEL:	84	181	391	842

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Perris Boulevard
Road Segment: South of Iris Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,656 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,266 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.73	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.51	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.46	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.6	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	61.0	59.5	53.1	51.6	60.0	60.2
Heavy Trucks:	61.0	59.6	50.5	51.8	60.2	60.3
Vehicle Noise:	69.2	67.4	64.4	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	75	161	346	749
CNEL:	81	174	374	806

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Perris Boulevard
Road Segment: North of Krameria Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,533 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,153 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.51	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.73	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.69	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.4	65.5	63.7	57.6	66.3	66.9
Medium Trucks:	60.7	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	60.8	59.4	50.3	51.6	59.9	60.1
Vehicle Noise:	68.9	67.2	64.2	59.3	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	72	156	336	724
CNEL:	78	168	362	779

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Perris Boulevard
Road Segment: South of Krameria Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,114 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,211 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.62	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.61	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.57	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.5	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.9	59.4	53.0	51.4	59.9	60.1
Heavy Trucks:	60.9	59.5	50.4	51.7	60.0	60.2
Vehicle Noise:	69.0	67.3	64.3	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	74	159	342	737
CNEL:	79	171	368	793

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Perris Boulevard
Road Segment: North of San Michele Road
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,145 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,315 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.82	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.42	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.37	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.7	65.8	64.0	57.9	66.6	67.2
Medium Trucks:	61.1	59.6	53.2	51.6	60.1	60.3
Heavy Trucks:	61.1	59.7	50.6	51.9	60.2	60.4
Vehicle Noise:	69.2	67.5	64.5	59.7	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	76	164	353	760
CNEL:	82	176	379	817

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Perris Boulevard
Road Segment: San Michele Road to Nandina Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,692 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,269 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.74	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.50	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.46	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.6	65.7	63.9	57.9	66.5	67.1
Medium Trucks:	61.0	59.5	53.1	51.6	60.0	60.3
Heavy Trucks:	61.0	59.6	50.6	51.8	60.2	60.3
Vehicle Noise:	69.2	67.4	64.4	59.6	68.1	68.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	75	162	348	750
CNEL:	81	174	374	807

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project
Road Name: Perris Boulevard
Road Segment: South of Nandina Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,448 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,845 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.72	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.52	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.48	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.6	66.7	64.9	58.8	67.5	68.1
Medium Trucks:	62.0	60.4	54.1	52.5	61.0	61.2
Heavy Trucks:	62.0	60.6	51.5	52.8	61.1	61.3
Vehicle Noise:	70.1	68.4	65.4	60.6	69.1	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	87	188	405	872
CNEL:	94	202	435	938

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: North of Harley Knox Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 32,140 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 3,214 vehicles
Vehicle Speed: 45 mph
Near/Far Lane Distance: 24 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.403
Medium Trucks: 99.314
Heavy Trucks: 99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	3.12	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-14.12	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-18.07	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.8	63.9	62.1	56.1	64.7	65.3
Medium Trucks:	59.8	58.0	51.7	50.1	58.6	58.8
Heavy Trucks:	60.4	59.0	49.9	51.2	59.6	59.7
Vehicle Noise:	67.6	65.9	62.7	58.1	66.6	67.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	59	128	276	594
CNEL:	64	137	296	637

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: South of Harley Knox Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 28,966 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,897 vehicles
Vehicle Speed: 45 mph
Near/Far Lane Distance: 24 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.403
Medium Trucks: 99.314
Heavy Trucks: 99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	2.36	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-14.88	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-18.84	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.0	63.1	61.4	55.3	63.9	64.5
Medium Trucks:	58.8	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	59.6	58.2	49.2	50.4	58.8	58.9
Vehicle Noise:	66.9	65.1	62.0	57.3	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	53	114	245	529
CNEL:	57	122	263	567

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: North of Ramona Expressway

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 25,165 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,517 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.19	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.05	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.01	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.2	65.3	63.6	57.5	66.1	66.8
Medium Trucks:	60.6	59.1	52.9	51.2	59.7	59.9
Heavy Trucks:	60.7	59.3	50.2	51.5	59.6	59.9
Vehicle Noise:	68.8	67.1	64.1	59.2	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	71	153	331	712
CNEL:	77	165	356	768

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: South of Ramona Expressway

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 25,768 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,579 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.29	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.95	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.90	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.1	66.2	64.5	58.4	67.0	67.6
Medium Trucks:	61.5	60.0	53.7	52.1	60.6	60.8
Heavy Trucks:	61.8	60.1	51.1	52.4	60.7	60.8
Vehicle Noise:	69.7	68.0	65.0	60.1	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	82	176	379	817
CNEL:	88	189	408	878

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project — Project Name: Moreno Valley Walmart
Road Name: Kitching Street — Job Number: 8870
Road Segment: North of Cactus Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 8,107 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 811 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-3.73	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-20.97	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-24.93	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.3	60.4	58.7	52.6	61.2	61.8
Medium Trucks:	55.7	54.2	47.8	46.3	54.8	55.0
Heavy Trucks:	55.6	54.3	45.3	46.5	54.9	55.0
Vehicle Noise:	63.9	62.1	59.2	54.3	62.9	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	72	155	335
CNEL:	36	78	167	360

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project — Project Name: Moreno Valley Walmart
Road Name: Kitching Street — Job Number: 8870
Road Segment: South of Cactus Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 9,767 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 977 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.54	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-18.78	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-22.74	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.2	57.3	55.5	49.4	58.1	58.7
Medium Trucks:	53.1	51.6	45.3	43.7	52.2	52.4
Heavy Trucks:	54.4	53.0	44.0	45.2	53.6	53.7
Vehicle Noise:	61.2	59.4	56.2	51.6	60.1	60.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	22	47	102	220
CNEL:	24	51	109	238

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project | Project Name: Moreno Valley Walmart
Road Name: Kitching Street | Job Number: 8870
Road Segment: North of John F. Kennedy Drive

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,303 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	930 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.75	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-18.99	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-22.95	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.9	57.0	55.3	49.2	57.8	58.5
Medium Trucks:	52.9	51.4	45.0	43.5	52.0	52.2
Heavy Trucks:	54.2	52.8	43.8	45.0	53.4	53.5
Vehicle Noise:	61.0	59.2	55.9	51.4	59.9	60.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	21	46	99	213
CNEL:	23	49	106	228

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project | Project Name: Moreno Valley Walmart
Road Name: Kitching Street | Job Number: 8870
Road Segment: South of John F. Kennedy Drive

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,160 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,016 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.37	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-18.61	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-22.56	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.3	57.4	55.7	49.6	58.2	58.9
Medium Trucks:	53.3	51.8	45.4	43.9	52.3	52.6
Heavy Trucks:	54.6	53.2	44.2	45.4	53.8	53.9
Vehicle Noise:	61.3	59.6	56.3	51.8	60.3	60.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	23	49	105	226
CNEL:	24	52	112	242

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project | Project Name: Moreno Valley Walmart
Road Name: Kitching Street | Job Number: 8870
Road Segment: North of Iris Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,501 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	750 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-4.07	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-21.31	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-25.27	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.0	60.1	58.3	52.3	60.9	61.5
Medium Trucks:	55.4	53.9	47.5	46.0	54.4	54.7
Heavy Trucks:	55.4	54.0	45.0	46.2	54.6	54.7
Vehicle Noise:	63.6	61.8	58.9	54.0	62.5	63.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	32	68	147	318
CNEL:	34	74	159	342

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project | Project Name: Moreno Valley Walmart
Road Name: Kitching Street | Job Number: 8870
Road Segment: South of Iris Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,327 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	933 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.25	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-19.49	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-23.45	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.5	58.6	56.8	50.8	59.4	60.0
Medium Trucks:	54.2	52.7	46.4	44.8	53.3	53.5
Heavy Trucks:	55.1	53.7	44.6	45.9	54.2	54.4
Vehicle Noise:	62.3	60.6	57.4	52.8	61.3	61.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	26	57	122	263
CNEL:	28	61	131	282

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project | Project Name: Moreno Valley Walmart
Road Name: Lasselle Street | Job Number: 8870
Road Segment: North of Iris Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,565 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,057 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.31	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.93	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.89	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.4	64.5	62.7	56.7	65.3	65.9
Medium Trucks:	59.8	58.3	51.9	50.3	58.8	59.0
Heavy Trucks:	59.6	58.4	49.3	50.6	58.9	59.1
Vehicle Noise:	67.9	66.2	63.2	58.4	66.9	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	62	134	289	622
CNEL:	67	144	311	670

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2018 With Project | Project Name: Moreno Valley Walmart
Road Name: Lasselle Street | Job Number: 8870
Road Segment: South of Iris Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,321 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,832 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.70	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.54	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.50	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.8	65.9	64.1	58.0	66.7	67.3
Medium Trucks:	61.1	59.6	53.3	51.7	60.2	60.4
Heavy Trucks:	61.2	59.8	50.7	52.0	60.3	60.5
Vehicle Noise:	69.3	67.6	64.6	59.7	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	77	166	358	770
CNEL:	83	179	385	829

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project — Project Name: Moreno Valley Walmart
Road Name: Sunnymead Boulevard — Job Number: 8870
Road Segment: Perris Boulevard to SR-60 EB On-Ramp

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,800 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.80	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.44	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.39	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.9	66.0	64.2	58.1	66.8	67.4
Medium Trucks:	61.3	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	61.3	59.8	50.8	52.1	60.4	60.6
Vehicle Noise:	69.4	67.7	64.7	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	78	169	363	783
CNEL:	84	181	391	842

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project — Project Name: Moreno Valley Walmart
Road Name: Eucalyptus Avenue — Job Number: 8870
Road Segment: East of Perris Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,500 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	0.32	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-16.92	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-20.87	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.0	59.1	57.4	51.3	59.9	60.5
Medium Trucks:	55.0	53.5	47.1	45.6	54.0	54.3
Heavy Trucks:	56.3	54.9	45.9	47.1	55.5	55.6
Vehicle Noise:	63.0	61.3	58.0	53.5	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	29	63	136	293
CNEL:	31	68	146	314

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project — Project Name: Moreno Valley Walmart
Road Name: Cottonwood Avenue — Job Number: 8870
Road Segment: West of Indian Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,760 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,576 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.403
Medium Trucks:	99.314
Heavy Trucks:	99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.02	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-17.21	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-21.17	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.7	60.8	59.0	53.0	61.6	62.2
Medium Trucks:	56.5	55.0	48.6	47.0	55.5	55.7
Heavy Trucks:	57.3	55.9	46.9	48.1	56.5	56.6
Vehicle Noise:	64.5	62.8	59.6	55.0	63.5	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	37	80	171	369
CNEL:	40	86	184	396

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project — Project Name: Moreno Valley Walmart
Road Name: Cottonwood Avenue — Job Number: 8870
Road Segment: East of Indian Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,049 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,305 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.403
Medium Trucks:	99.314
Heavy Trucks:	99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.80	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-18.03	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-21.99	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.9	60.0	58.2	52.2	60.8	61.4
Medium Trucks:	55.8	54.1	47.6	46.2	54.7	54.9
Heavy Trucks:	56.5	55.1	46.0	47.3	55.6	55.8
Vehicle Noise:	63.7	62.0	58.8	54.2	62.7	63.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	70	151	326
CNEL:	35	75	162	349

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project — Project Name: Moreno Valley Walmart
Road Name: Cottonwood Avenue — Job Number: 8870
Road Segment: West of Perris Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,000 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.403
Medium Trucks:	99.314
Heavy Trucks:	99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	1.06	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-16.18	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-20.13	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.7	61.8	60.1	54.0	62.6	63.2
Medium Trucks:	57.5	56.0	49.6	48.1	56.5	56.8
Heavy Trucks:	58.3	56.9	47.9	49.1	57.5	57.6
Vehicle Noise:	65.6	63.8	60.7	56.0	64.5	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	43	93	201	433
CNEL:	46	100	216	466

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project — Project Name: Moreno Valley Walmart
Road Name: Cottonwood Avenue — Job Number: 8870
Road Segment: East of Perris Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,800 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	1.11	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-16.13	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-20.08	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.8	59.9	58.1	52.1	60.7	61.3
Medium Trucks:	55.8	54.3	47.9	46.4	54.8	55.1
Heavy Trucks:	57.1	55.7	46.6	47.9	56.3	56.4
Vehicle Noise:	63.8	62.1	58.8	54.3	62.8	63.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	71	154	331
CNEL:	35	76	164	354

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Alessandro Boulevard
Road Segment: West of Heacock Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	54,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	5,400 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.50	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.74	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.69	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.3	69.4	67.7	61.6	70.2	70.9
Medium Trucks:	64.7	63.2	56.9	55.3	63.8	64.0
Heavy Trucks:	64.8	63.4	54.3	55.6	63.9	64.0
Vehicle Noise:	72.9	71.2	68.2	63.3	71.9	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	134	288	620	1,336
CNEL:	144	310	667	1,438

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Alessandro Boulevard
Road Segment: East of Heacock Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,800 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.99	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.25	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.20	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.8	68.9	67.2	61.1	69.7	70.3
Medium Trucks:	64.2	62.7	56.4	54.8	63.3	63.5
Heavy Trucks:	64.3	62.8	53.8	55.1	63.4	63.5
Vehicle Noise:	72.4	70.7	67.7	62.8	71.4	71.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	124	266	573	1,236
CNEL:	133	286	617	1,329

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Alessandro Boulevard
Road Segment: West of Indian Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,600 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.81	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.43	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.39	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.7	68.8	67.0	60.9	69.6	70.2
Medium Trucks:	64.0	62.5	56.2	54.6	63.1	63.3
Heavy Trucks:	64.1	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	72.2	70.5	67.5	62.6	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	120	259	557	1,201
CNEL:	129	278	600	1,292

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Alessandro Boulevard
Road Segment: East of Indian Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,300 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.51	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.73	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.68	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.4	68.5	66.7	60.6	69.3	69.9
Medium Trucks:	63.7	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	63.8	62.4	53.3	54.6	62.9	63.1
Vehicle Noise:	71.9	70.2	67.2	62.3	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	115	247	533	1,148
CNEL:	124	266	573	1,235

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Alessandro Boulevard
Road Segment: West of Perris Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,300 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.51	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.73	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.68	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.4	68.5	66.7	60.6	69.3	69.9
Medium Trucks:	63.7	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	63.8	62.4	53.3	54.6	62.9	63.1
Vehicle Noise:	71.9	70.2	67.2	62.3	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	115	247	533	1,148
CNEL:	124	266	573	1,235

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Alessandro Boulevard
Road Segment: East of Perris Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,600 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.81	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.43	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.39	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.9	68.0	66.2	60.1	68.8	69.4
Medium Trucks:	63.3	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	63.3	61.9	52.8	54.1	62.4	62.6
Vehicle Noise:	71.4	69.7	66.7	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	106	229	494	1,065
CNEL:	115	247	532	1,145

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Cactus Avenue
Road Segment: West of I-215 Freeway
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,904 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,190 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.40	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.84	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.78	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.5	67.6	65.8	59.7	68.4	69.0
Medium Trucks:	62.9	61.3	55.0	53.4	61.9	62.1
Heavy Trucks:	62.8	61.5	52.4	53.7	62.0	62.2
Vehicle Noise:	71.0	69.3	66.3	61.4	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	100	216	464	1,000
CNEL:	108	232	500	1,076

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Cactus Avenue
Road Segment: I-215 SB Ramps to I-215 NB Ramps
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,904 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,690 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.89	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.35	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.30	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.0	68.1	66.3	60.2	68.9	69.5
Medium Trucks:	63.3	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	63.4	62.0	52.9	54.2	62.5	62.7
Vehicle Noise:	71.5	69.8	66.8	61.9	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	108	232	501	1,078
CNEL:	116	250	539	1,160

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Cactus Avenue
Road Segment: East of I-215 NB Ramps
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	65,412 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	6,541 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	5.33	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-11.90	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-15.86	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.4	69.5	67.7	61.7	70.3	70.9
Medium Trucks:	64.8	63.3	56.9	55.4	63.8	64.1
Heavy Trucks:	64.8	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	73.0	71.2	68.3	63.4	71.9	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	135	290	625	1,346
CNEL:	145	312	672	1,448

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Cactus Avenue
Road Segment: West of Elsworth Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	63,112 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	6,311 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	5.18	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.06	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.02	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.2	69.3	67.6	61.5	70.1	70.7
Medium Trucks:	64.6	63.1	56.6	55.2	63.7	63.9
Heavy Trucks:	64.7	63.2	54.2	55.5	63.8	63.9
Vehicle Noise:	72.8	71.1	68.1	63.2	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	131	283	610	1,314
CNEL:	141	305	656	1,414

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Cactus Avenue
Road Segment: East of Elsworth Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	58,162 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	5,816 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.82	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.41	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.37	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.7	69.8	68.0	62.0	70.6	71.2
Medium Trucks:	65.1	63.6	57.2	55.6	64.1	64.3
Heavy Trucks:	65.1	63.7	54.6	55.9	64.2	64.4
Vehicle Noise:	73.2	71.5	68.5	63.7	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	140	303	652	1,404
CNEL:	151	325	701	1,511

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Cactus Avenue
Road Segment: West of Frederick Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	60,283 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	6,028 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000	
Medium Trucks:	2.297	
Heavy Trucks:	8.006	Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.98	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.26	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.21	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.8	69.9	68.2	62.1	70.7	71.3
Medium Trucks:	65.2	63.7	57.3	55.8	64.3	64.5
Heavy Trucks:	65.3	63.8	54.8	56.0	64.4	64.5
Vehicle Noise:	73.4	71.6	68.7	63.8	72.4	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	144	310	668	1,438
CNEL:	155	333	718	1,547

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Cactus Avenue
Road Segment: East of Frederick Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 62,358 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 6,236 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	5.13	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.11	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.07	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	72.0	70.1	68.3	62.3	70.9	71.5
Medium Trucks:	65.4	63.9	57.5	56.0	64.4	64.6
Heavy Trucks:	65.4	64.0	54.9	56.2	64.5	64.7
Vehicle Noise:	73.6	71.8	68.8	64.0	72.5	73.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	147	317	683	1,471
CNEL:	158	341	735	1,583

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Cactus Avenue
Road Segment: West of Graham Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 59,090 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 5,909 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.89	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.35	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.30	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.7	69.8	68.1	62.0	70.6	71.2
Medium Trucks:	65.1	63.6	57.3	55.7	64.2	64.4
Heavy Trucks:	65.2	63.7	54.7	56.0	64.3	64.4
Vehicle Noise:	73.3	71.6	68.6	63.7	72.3	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	142	306	659	1,419
CNEL:	153	329	709	1,527

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Cactus Avenue
Road Segment: East of Graham Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 54,860 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 5,486 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.55	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.69	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.64	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.4	69.5	67.7	61.7	70.3	70.9
Medium Trucks:	64.8	63.3	56.9	55.4	63.8	64.1
Heavy Trucks:	64.8	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	73.0	71.2	68.3	63.4	71.9	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	135	290	625	1,347
CNEL:	145	312	673	1,449

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Cactus Avenue
Road Segment: West of Heacock Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 50,288 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 5,029 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.19	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.05	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.00	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.0	69.1	67.4	61.3	69.9	70.5
Medium Trucks:	64.4	62.9	56.6	55.0	63.5	63.7
Heavy Trucks:	64.5	63.0	54.0	55.3	63.6	63.7
Vehicle Noise:	72.6	70.9	67.9	63.0	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	127	275	592	1,274
CNEL:	137	295	636	1,371

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Cactus Avenue
Road Segment: East of Heacock Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 42,979 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 4,298 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.51	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.73	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.68	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.6	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	63.0	61.5	55.1	53.5	62.0	62.2
Heavy Trucks:	63.0	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	71.2	69.4	66.4	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	102	219	472	1,017
CNEL:	109	236	508	1,095

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Cactus Avenue
Road Segment: West of Indian Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 38,988 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 3,899 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.09	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-14.15	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.11	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.1	67.2	65.5	59.4	68.1	68.7
Medium Trucks:	62.5	61.0	54.7	53.1	61.6	61.8
Heavy Trucks:	62.6	61.2	52.1	53.4	61.7	61.8
Vehicle Noise:	70.7	69.0	66.0	61.1	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	95	205	443	953
CNEL:	103	221	476	1,026

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Cactus Avenue
Road Segment: East of Indian Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,331 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,933 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.12	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-14.11	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.07	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.2	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	62.8	61.1	54.7	53.2	61.6	61.9
Heavy Trucks:	62.8	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	70.8	69.0	66.0	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	96	207	445	959
CNEL:	103	222	479	1,032

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Cactus Avenue
Road Segment: West of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	37,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,700 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.86	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-14.38	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.33	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.9	67.0	65.3	59.2	67.8	68.4
Medium Trucks:	62.3	60.8	54.4	52.9	61.4	61.6
Heavy Trucks:	62.3	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	70.5	68.7	65.8	60.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	92	198	427	921
CNEL:	99	213	460	991

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Cactus Avenue
Road Segment: East of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,200 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.23	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.01	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.97	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.3	66.4	64.6	58.6	67.2	67.8
Medium Trucks:	61.7	60.2	53.8	52.3	60.7	61.0
Heavy Trucks:	61.7	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	69.9	68.1	65.2	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	84	180	388	836
CNEL:	90	194	417	899

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Cactus Avenue
Road Segment: East of Kitching Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,829 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,483 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.13	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.11	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.07	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.2	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	60.8	59.1	52.7	51.2	59.6	59.9
Heavy Trucks:	60.8	59.2	50.2	51.4	59.8	59.9
Vehicle Noise:	68.8	67.0	64.0	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	71	152	328	706
CNEL:	76	164	352	759

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: John F. Kennedy Drive
Road Segment: West of Heacock Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,800 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.78	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.02	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.98	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.3	63.4	61.6	55.6	64.2	64.8
Medium Trucks:	58.7	57.2	50.8	49.3	57.7	57.9
Heavy Trucks:	58.7	57.3	48.2	49.5	57.9	58.0
Vehicle Noise:	66.9	65.1	62.1	57.3	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	53	113	244	527
CNEL:	57	122	263	566

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: John F. Kennedy Drive
Road Segment: East of Heacock Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,066 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,507 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.04	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.28	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.24	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.0	63.1	61.4	55.3	63.9	64.5
Medium Trucks:	58.4	56.9	50.5	49.0	57.5	57.7
Heavy Trucks:	58.4	57.0	48.0	49.2	57.6	57.7
Vehicle Noise:	66.6	64.8	61.9	57.0	65.6	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	51	109	235	506
CNEL:	54	117	253	544

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: John F. Kennedy Drive
Road Segment: West of Indian Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,562 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,956 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.09	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.15	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.10	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.2	64.3	62.5	56.4	65.1	65.7
Medium Trucks:	59.5	58.0	51.7	50.1	58.6	58.8
Heavy Trucks:	59.8	58.2	49.1	50.4	58.7	58.9
Vehicle Noise:	67.7	66.0	63.0	58.1	66.7	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	60	130	279	602
CNEL:	65	140	301	648

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: John F. Kennedy Drive
Road Segment: East of Indian Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,104 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,110 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.42	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.82	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.77	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.5	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.8	58.4	52.0	50.5	58.9	59.2
Heavy Trucks:	59.9	58.5	49.5	50.7	59.1	59.2
Vehicle Noise:	68.1	66.3	63.3	58.5	67.0	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	63	136	294	633
CNEL:	68	147	316	681

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: John F. Kennedy Drive
Road Segment: West of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,580 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.28	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.94	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.90	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.4	65.5	63.7	57.6	66.3	66.9
Medium Trucks:	60.7	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	60.8	59.4	50.3	51.6	59.9	60.1
Vehicle Noise:	68.9	67.2	64.2	59.3	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	72	156	336	724
CNEL:	78	168	362	779

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: John F. Kennedy Drive
Road Segment: East of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,010 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.96	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.26	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.23	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.0	66.1	64.4	58.3	66.9	67.5
Medium Trucks:	61.4	59.9	53.5	52.0	60.5	60.7
Heavy Trucks:	61.5	60.0	51.0	52.2	60.6	60.7
Vehicle Noise:	69.6	67.8	64.9	60.0	68.6	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	80	173	372	802
CNEL:	86	186	401	863

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: John F. Kennedy Drive
Road Segment: West of Kitching Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,872 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,887 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.78	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.48	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.41	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.8	65.9	64.2	58.1	66.7	67.4
Medium Trucks:	61.2	59.7	53.4	51.8	60.3	60.5
Heavy Trucks:	61.3	59.8	50.8	52.1	60.4	60.5
Vehicle Noise:	69.4	67.7	64.7	59.8	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	78	168	362	780
CNEL:	84	181	390	840

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: John F. Kennedy Drive
Road Segment: East of Kitching Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,538 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,654 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.42	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.82	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.78	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.5	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.9	59.4	53.0	51.5	59.9	60.1
Heavy Trucks:	60.9	59.5	50.4	51.7	60.1	60.2
Vehicle Noise:	69.1	67.3	64.3	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	74	159	342	738
CNEL:	79	171	368	794

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project — Project Name: Moreno Valley Walmart
Road Name: Gentian Avenue — Job Number: 8870
Road Segment: West of Indian Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	300 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-7.16	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-24.42	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-26.37	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.5	53.7	51.9	45.8	54.5	55.1
Medium Trucks:	49.3	47.8	41.4	39.9	48.4	48.6
Heavy Trucks:	50.2	48.7	39.7	41.0	49.3	49.4
Vehicle Noise:	57.4	55.7	52.5	47.8	56.4	56.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	12	27	57	123
CNEL:	13	29	61	132

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project — Project Name: Moreno Valley Walmart
Road Name: Gentian Avenue — Job Number: 8870
Road Segment: East of Perris Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,500 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	750 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.89	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-19.93	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-23.88	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.0	56.1	54.3	48.3	56.9	57.5
Medium Trucks:	52.0	50.5	44.1	42.6	51.0	51.3
Heavy Trucks:	53.3	51.9	42.8	44.1	52.4	52.6
Vehicle Noise:	60.0	58.3	55.0	50.5	59.0	59.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	18	40	86	185
CNEL:	20	43	92	198

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project — Project Name: Moreno Valley Walmart
Road Name: Santiago Drive — Job Number: 8870
Road Segment: East of Perris Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,006 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	701 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.98	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-20.22	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-24.18	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.7	55.8	54.0	48.0	56.6	57.2
Medium Trucks:	51.7	50.2	43.8	42.3	50.7	51.0
Heavy Trucks:	53.0	51.6	42.5	43.8	52.2	52.3
Vehicle Noise:	59.7	58.0	54.7	50.2	58.7	59.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	18	38	82	176
CNEL:	19	41	88	189

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project — Project Name: Moreno Valley Walmart
Road Name: Iris Avenue — Job Number: 8870
Road Segment: West of Indian Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,951 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,595 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	0.59	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-16.65	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-20.61	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.3	59.4	57.6	51.6	60.2	60.8
Medium Trucks:	55.3	53.7	47.4	45.8	54.3	54.5
Heavy Trucks:	56.6	55.2	46.1	47.4	55.7	55.9
Vehicle Noise:	63.3	61.6	58.3	53.7	62.3	62.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	31	66	142	305
CNEL:	33	70	152	327

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project — Project Name: Moreno Valley Walmart
Road Name: Iris Avenue — Job Number: 8870
Road Segment: East of Indian Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,480 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,048 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.29	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.95	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.90	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.4	64.5	62.7	56.6	65.3	65.9
Medium Trucks:	59.7	58.2	51.9	50.3	58.8	59.0
Heavy Trucks:	59.8	58.4	49.3	50.6	58.9	59.1
Vehicle Noise:	67.9	66.2	63.2	58.3	66.9	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	62	134	288	621
CNEL:	67	144	310	668

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project — Project Name: Moreno Valley Walmart
Road Name: Iris Avenue — Job Number: 8870
Road Segment: West of Perris Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,680 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.43	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.81	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.77	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.5	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.9	59.4	53.0	51.5	59.9	60.2
Heavy Trucks:	60.9	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	69.1	67.3	64.3	59.5	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	74	159	343	739
CNEL:	79	171	369	795

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Iris Avenue
Road Segment: East of Perris Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 26,318 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,632 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.36	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.86	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.81	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.4	65.5	63.8	57.7	66.3	66.9
Medium Trucks:	60.8	59.3	53.0	51.4	59.9	60.1
Heavy Trucks:	60.8	59.4	50.4	51.7	60.0	60.1
Vehicle Noise:	69.0	67.3	64.3	59.4	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	73	158	341	734
CNEL:	79	170	366	789

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Iris Avenue
Road Segment: West of Kitching Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 31,148 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 3,115 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.11	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.13	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.08	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.2	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	61.6	60.1	53.7	52.1	60.6	60.8
Heavy Trucks:	61.6	60.2	51.1	52.4	60.7	60.9
Vehicle Noise:	69.8	68.0	65.0	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	82	177	381	821
CNEL:	88	190	410	883

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Iris Avenue
Road Segment: East of Kitching Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 40,764 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 4,076 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.28	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.86	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.91	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.1	68.2	66.5	60.4	69.0	69.6
Medium Trucks:	63.5	62.0	55.6	54.1	62.6	62.8
Heavy Trucks:	63.6	62.1	53.1	54.3	62.7	62.8
Vehicle Noise:	71.7	69.9	67.0	62.1	70.7	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	111	239	514	1,108
CNEL:	119	257	553	1,192

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Iris Avenue
Road Segment: West of Lasselle Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 37,500 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 3,750 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.92	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-14.32	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.28	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.8	67.9	66.1	60.0	68.7	69.3
Medium Trucks:	63.2	61.6	55.3	53.7	62.2	62.4
Heavy Trucks:	63.2	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	71.3	69.6	66.6	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	105	226	486	1,046
CNEL:	113	243	523	1,127

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Iris Avenue
Road Segment: East of Lasselle Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 43,000 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 4,300 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.51	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.73	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.68	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.4	68.5	66.7	60.6	69.3	69.9
Medium Trucks:	63.7	62.2	55.9	54.3	62.8	63.0
Heavy Trucks:	63.8	62.4	53.3	54.6	62.9	63.1
Vehicle Noise:	71.9	70.2	67.2	62.3	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	115	247	533	1,148
CNEL:	124	266	573	1,236

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Kramena Avenue
Road Segment: East of Indian Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 8,000 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 800 vehicles
Vehicle Speed: 45 mph
Near/Far Lane Distance: 24 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.403
Medium Trucks: 99.314
Heavy Trucks: 99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.92	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-20.16	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-24.11	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.8	57.9	56.1	50.0	58.7	59.3
Medium Trucks:	53.5	52.0	45.6	44.1	52.6	52.8
Heavy Trucks:	54.4	52.9	43.9	45.2	53.5	53.6
Vehicle Noise:	61.6	59.9	56.7	52.0	60.6	61.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	24	51	109	235
CNEL:	25	54	117	252

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project | Project Name: Moreno Valley Walmart
Road Name: Krameria Avenue | Job Number: 8870
Road Segment: West of Perris Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 12,593 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,259 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.44	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-17.68	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-21.63	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.3	58.4	56.6	50.5	59.2	59.8
Medium Trucks:	54.2	52.7	46.4	44.6	53.3	53.5
Heavy Trucks:	55.6	54.1	45.1	46.3	54.7	54.8
Vehicle Noise:	62.3	60.5	57.3	52.7	61.2	61.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	26	56	121	261
CNEL:	28	60	130	279

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project | Project Name: Moreno Valley Walmart
Road Name: Krameria Avenue | Job Number: 8870
Road Segment: East of Perris Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 18,429 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,843 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.67	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.90	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.86	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.4	63.5	61.7	55.7	64.3	64.9
Medium Trucks:	58.8	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	58.8	57.4	48.4	49.6	58.0	58.1
Vehicle Noise:	67.0	65.2	62.3	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	54	115	249	536
CNEL:	58	124	268	577

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project | Project Name: Moreno Valley Walmart
Road Name: Harley Knox Boulevard | Job Number: 8870
Road Segment: West of Webster Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 39,000 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 3,900 vehicles
Vehicle Speed: 45 mph
Near/Far Lane Distance: 24 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.403
Medium Trucks: 99.314
Heavy Trucks: 99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	3.96	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-13.28	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-17.23	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.6	64.7	63.0	56.9	65.5	66.1
Medium Trucks:	60.4	58.9	52.5	51.0	59.4	59.7
Heavy Trucks:	61.2	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	68.5	66.7	63.6	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	68	146	314	676
CNEL:	73	156	337	725

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project | Project Name: Moreno Valley Walmart
Road Name: Harley Knox Boulevard | Job Number: 8870
Road Segment: East of Webster Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 39,000 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 3,900 vehicles
Vehicle Speed: 45 mph
Near/Far Lane Distance: 24 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.403
Medium Trucks: 99.314
Heavy Trucks: 99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	3.96	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-13.28	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-17.23	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.6	64.7	63.0	56.9	65.5	66.1
Medium Trucks:	60.4	58.9	52.5	51.0	59.4	59.7
Heavy Trucks:	61.2	59.8	50.8	52.0	60.4	60.5
Vehicle Noise:	68.5	66.7	63.6	58.9	67.4	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	68	146	314	676
CNEL:	73	156	337	725

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project | Project Name: Moreno Valley Walmart
Road Name: Harley Knox Boulevard | Job Number: 8870
Road Segment: West of Indian Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 38,410 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 3,841 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.79	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-14.45	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.40	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.9	67.0	65.2	59.1	67.8	68.4
Medium Trucks:	62.2	60.7	54.4	52.8	61.3	61.5
Heavy Trucks:	62.3	60.9	51.8	53.1	61.4	61.6
Vehicle Noise:	70.4	68.7	65.7	60.8	69.4	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	91	196	423	911
CNEL:	98	211	455	980

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project | Project Name: Moreno Valley Walmart
Road Name: Harley Knox Boulevard | Job Number: 8870
Road Segment: East of Indian Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 34,500 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 3,450 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.56	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-14.68	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.64	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.6	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	62.0	60.5	54.1	52.6	61.1	61.3
Heavy Trucks:	62.0	60.6	51.6	52.8	61.2	61.3
Vehicle Noise:	70.2	68.4	65.5	60.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	88	189	408	879
CNEL:	95	204	439	945

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Harley Knox Boulevard
Road Segment: West of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,500 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,950 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.403
Medium Trucks:	99.314
Heavy Trucks:	99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	2.75	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-14.49	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-18.45	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.4	63.5	61.8	55.7	64.3	64.9
Medium Trucks:	59.2	57.7	51.3	49.8	58.2	58.5
Heavy Trucks:	60.0	58.6	49.6	50.8	59.2	59.3
Vehicle Noise:	67.3	65.5	62.4	57.7	66.2	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	56	121	260	561
CNEL:	60	130	279	602

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Ramona Expressway
Road Segment: West of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,400 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,340 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.55	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.69	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.64	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.4	68.5	66.7	60.7	69.3	69.9
Medium Trucks:	63.8	62.3	55.9	54.4	62.8	63.1
Heavy Trucks:	63.8	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	72.0	70.2	67.3	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	116	249	536	1,155
CNEL:	124	268	577	1,243

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Ramona Expressway
Road Segment: East of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,510 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.72	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.52	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.47	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.6	68.7	66.9	60.8	69.5	70.1
Medium Trucks:	64.0	62.4	56.1	54.5	63.0	63.2
Heavy Trucks:	64.0	62.6	53.5	54.8	63.1	63.3
Vehicle Noise:	72.1	70.4	67.4	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	119	256	550	1,185
CNEL:	128	275	592	1,275

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Frederick Street
Road Segment: North of Cactus Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,680 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,268 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.80	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.04	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.99	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.3	62.4	60.6	54.5	63.2	63.8
Medium Trucks:	57.7	56.1	49.6	48.2	56.7	56.9
Heavy Trucks:	57.7	56.3	47.2	48.5	56.8	57.0
Vehicle Noise:	65.8	64.1	61.1	56.3	64.8	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	45	97	209	450
CNEL:	48	104	225	485

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Heacock Street
Road Segment: North of Alessandro Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,400 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,840 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.17	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.41	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.37	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.9	64.0	62.2	56.2	64.8	65.4
Medium Trucks:	59.3	57.8	51.4	49.9	58.3	58.6
Heavy Trucks:	59.3	57.9	48.9	50.1	58.5	58.6
Vehicle Noise:	67.5	65.7	62.7	57.9	66.4	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	58	125	268	578
CNEL:	62	134	289	622

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Heacock Street
Road Segment: North of Cactus Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,800 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.27	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.51	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.46	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.8	63.9	62.1	56.1	64.7	65.3
Medium Trucks:	59.2	57.7	51.3	49.8	58.2	58.5
Heavy Trucks:	59.2	57.8	48.8	50.0	58.4	58.5
Vehicle Noise:	67.4	65.6	62.7	57.8	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	57	123	264	570
CNEL:	61	132	284	613

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Indian Street
Road Segment: North of Cottonwood Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,570 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,257 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.45	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-17.68	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-21.64	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.3	58.4	56.6	50.5	59.2	59.8
Medium Trucks:	54.2	52.7	46.4	44.8	53.3	53.5
Heavy Trucks:	55.5	54.1	45.1	46.3	54.7	54.8
Vehicle Noise:	62.3	60.5	57.3	52.7	61.2	61.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	26	56	121	260
CNEL:	28	60	129	278

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Indian Street
Road Segment: North of Alessandro Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,087 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,509 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.04	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.27	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.23	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.0	63.1	61.4	55.3	63.9	64.5
Medium Trucks:	58.4	56.9	50.5	49.0	57.5	57.7
Heavy Trucks:	58.5	57.0	48.0	49.2	57.6	57.7
Vehicle Noise:	66.6	64.8	61.9	57.0	65.6	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	51	109	235	506
CNEL:	54	117	253	545

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Indian Street
Road Segment: North of Cactus Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,785 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,779 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.32	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.55	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.52	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.7	63.8	62.1	56.0	64.6	65.2
Medium Trucks:	59.1	57.6	51.3	49.7	58.2	58.4
Heavy Trucks:	59.2	57.7	48.7	50.0	58.3	58.4
Vehicle Noise:	67.3	65.6	62.6	57.7	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	56	122	262	565
CNEL:	61	131	282	608

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Indian Street
Road Segment: South of John F. Kennedy Drive

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,178 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,218 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.97	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-19.21	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.16	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.1	62.2	60.4	54.4	63.0	63.6
Medium Trucks:	57.5	56.0	49.6	48.1	56.5	56.8
Heavy Trucks:	57.5	56.1	47.1	48.3	56.7	56.8
Vehicle Noise:	65.7	63.9	61.0	56.1	64.6	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	44	95	204	439
CNEL:	47	102	219	472

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Indian Street
Road Segment: North of Gentian Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,244 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,124 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.93	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-18.17	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-22.12	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.8	57.9	56.1	50.0	58.7	59.3
Medium Trucks:	53.7	52.2	45.9	44.3	52.8	53.0
Heavy Trucks:	55.1	53.6	44.6	45.9	54.2	54.3
Vehicle Noise:	61.8	60.0	56.8	52.2	60.8	61.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	24	52	112	242
CNEL:	26	56	120	259

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Indian Street
Road Segment: South of Iris Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,425 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	943 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.70	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-18.93	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-22.89	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.0	57.1	55.3	49.3	57.9	58.5
Medium Trucks:	53.0	51.5	45.1	43.6	52.0	52.2
Heavy Trucks:	54.3	52.9	43.8	45.1	53.4	53.6
Vehicle Noise:	61.0	59.3	56.0	51.5	60.0	60.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	21	46	100	215
CNEL:	23	50	107	230

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Indian Street
Road Segment: North of Krameria Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 12,600 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,260 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.44	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-17.67	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-21.63	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.3	58.4	56.6	50.5	59.2	59.8
Medium Trucks:	54.2	52.7	46.4	44.6	53.3	53.5
Heavy Trucks:	55.6	54.1	45.1	46.3	54.7	54.8
Vehicle Noise:	62.3	60.5	57.3	52.7	61.2	61.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	26	56	121	261
CNEL:	28	60	130	279

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Indian Street
Road Segment: South of Krameria Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 18,200 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,820 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	1.16	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-16.08	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-20.03	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.9	60.0	58.2	52.1	60.9	61.4
Medium Trucks:	55.8	54.3	48.0	46.4	54.9	55.1
Heavy Trucks:	57.2	55.7	46.7	47.9	56.3	56.4
Vehicle Noise:	63.9	62.1	58.9	54.3	62.8	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	72	155	333
CNEL:	36	77	166	357

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Indian Street
Road Segment: South of Harley Knox Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 29,500 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,950 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.68	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.36	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.32	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.9	66.0	64.3	58.2	66.8	67.4
Medium Trucks:	61.3	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	61.4	59.9	50.9	52.2	60.5	60.6
Vehicle Noise:	69.5	67.6	64.8	59.9	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	79	171	367	792
CNEL:	85	183	395	852

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Perris Boulevard
Road Segment: North of SR-60 WB Ramps

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 54,000 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 5,400 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.50	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.74	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.69	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.3	69.4	67.7	61.6	70.2	70.9
Medium Trucks:	64.7	63.2	56.9	55.3	63.8	64.0
Heavy Trucks:	64.8	63.4	54.3	55.6	63.9	64.0
Vehicle Noise:	72.9	71.2	68.2	63.3	71.9	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	134	288	620	1,336
CNEL:	144	310	667	1,438

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Perris Boulevard
Road Segment: SR-60 WB Ramps to Sunnymead Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 42,000 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 4,200 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.41	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.83	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.78	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.3	68.4	66.6	60.5	69.2	69.8
Medium Trucks:	63.6	62.1	55.8	54.2	62.7	62.9
Heavy Trucks:	63.7	62.3	53.2	54.5	62.8	63.0
Vehicle Noise:	71.8	70.1	67.1	62.2	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	113	244	525	1,130
CNEL:	122	262	564	1,216

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Perris Boulevard
Road Segment: South of Sunnymead Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 47,000 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 4,700 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.90	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.34	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.30	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.0	68.1	66.3	60.2	68.9	69.5
Medium Trucks:	63.3	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	63.4	62.0	52.9	54.2	62.5	62.7
Vehicle Noise:	71.5	69.6	66.8	61.9	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	108	233	501	1,080
CNEL:	116	250	539	1,162

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: North of Eucalyptus Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,600 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.81	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.43	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.39	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.9	68.0	66.2	60.1	68.8	69.4
Medium Trucks:	63.3	61.7	55.4	53.6	62.3	62.5
Heavy Trucks:	63.3	61.9	52.8	54.1	62.4	62.6
Vehicle Noise:	71.4	69.7	66.7	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	108	229	494	1,065
CNEL:	115	247	532	1,145

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: South of Eucalyptus Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	5,200 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.34	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.90	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.86	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.4	68.5	66.7	60.7	69.3	69.9
Medium Trucks:	63.8	62.3	55.9	54.4	62.8	63.1
Heavy Trucks:	63.8	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	72.0	70.2	67.3	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	116	249	536	1,155
CNEL:	124	266	577	1,243

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: North of Cottonwood Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	5,000 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.17	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.07	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.03	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.2	68.3	66.6	60.5	69.1	69.7
Medium Trucks:	63.6	62.1	55.7	54.2	62.7	62.9
Heavy Trucks:	63.7	62.2	53.2	54.4	62.8	62.9
Vehicle Noise:	71.8	70.0	67.1	62.2	70.8	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	113	242	522	1,125
CNEL:	121	261	562	1,211

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: South of Cottonwood Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,500 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.71	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.53	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.48	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.8	67.9	66.1	60.1	68.7	69.3
Medium Trucks:	63.2	61.7	55.3	53.7	62.2	62.4
Heavy Trucks:	63.2	61.8	52.7	54.0	62.3	62.5
Vehicle Noise:	71.3	69.6	66.6	61.8	70.3	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	105	226	487	1,049
CNEL:	113	243	524	1,129

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: North of Alessandro Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,700 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.90	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.34	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.30	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.0	68.1	66.3	60.2	68.9	69.5
Medium Trucks:	63.3	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	63.4	62.0	52.9	54.2	62.5	62.7
Vehicle Noise:	71.5	69.8	66.8	61.9	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	108	233	501	1,080
CNEL:	116	250	539	1,162

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: South of Alessandro Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,700 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.90	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.34	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.30	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.0	68.1	66.3	60.2	68.9	69.5
Medium Trucks:	63.3	61.8	55.5	53.9	62.4	62.6
Heavy Trucks:	63.4	62.0	52.9	54.2	62.5	62.7
Vehicle Noise:	71.5	69.8	66.8	61.9	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	108	233	501	1,080
CNEL:	116	250	539	1,162

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Perris Boulevard
Road Segment: North of Cactus Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,300 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.51	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.73	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.68	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.6	67.7	65.9	59.9	68.5	69.1
Medium Trucks:	63.0	61.5	55.1	53.5	62.0	62.2
Heavy Trucks:	63.0	61.6	52.5	53.8	62.1	62.3
Vehicle Noise:	71.2	69.4	66.4	61.6	70.1	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	102	219	472	1,016
CNEL:	109	236	508	1,095

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Perris Boulevard
Road Segment: South of Cactus Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,800 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.99	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.25	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.20	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.8	68.9	67.2	61.1	69.7	70.3
Medium Trucks:	64.2	62.7	56.4	54.8	63.3	63.5
Heavy Trucks:	64.3	62.8	53.8	55.1	63.4	63.5
Vehicle Noise:	72.4	70.7	67.7	62.8	71.4	71.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	124	266	573	1,236
CNEL:	133	286	617	1,329

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Perris Boulevard
Road Segment: North of John F. Kennedy Drive
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,500 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.71	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.53	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.48	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.6	68.7	66.9	60.8	69.5	70.1
Medium Trucks:	63.9	62.4	56.1	54.5	63.0	63.2
Heavy Trucks:	64.0	62.6	53.5	54.8	63.1	63.3
Vehicle Noise:	72.1	70.4	67.4	62.5	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	118	255	549	1,183
CNEL:	127	274	591	1,273

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Perris Boulevard
Road Segment: South of John F. Kennedy Drive
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	5,200 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.34	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.90	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.86	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.2	69.3	67.5	61.5	70.1	70.7
Medium Trucks:	64.8	63.1	56.7	55.2	63.6	63.9
Heavy Trucks:	64.8	63.2	54.2	55.4	63.8	63.9
Vehicle Noise:	72.8	71.0	68.0	63.2	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	130	281	605	1,303
CNEL:	140	302	651	1,402

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Perris Boulevard
Road Segment: North of Gentian Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,900 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.08	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.16	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.11	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.9	69.0	67.3	61.2	69.8	70.4
Medium Trucks:	64.3	62.8	56.4	54.9	63.4	63.6
Heavy Trucks:	64.4	62.9	53.9	55.1	63.5	63.6
Vehicle Noise:	72.5	70.7	67.8	62.9	71.5	71.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	125	270	581	1,253
CNEL:	135	290	625	1,348

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Perris Boulevard
Road Segment: Gentian Avenue to Driveway 3
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,700 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.90	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.34	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.30	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.7	68.8	67.1	61.0	69.6	70.3
Medium Trucks:	64.1	62.6	56.3	54.7	63.2	63.4
Heavy Trucks:	64.2	62.8	53.7	55.0	63.3	63.4
Vehicle Noise:	72.3	70.6	67.6	62.7	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	122	262	565	1,218
CNEL:	131	282	608	1,311

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: Driveway 3 to Driveway 4

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 47,000 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 4,700 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.90	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.34	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.30	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.7	68.8	67.1	61.0	69.6	70.3
Medium Trucks:	64.1	62.6	56.3	54.7	63.2	63.4
Heavy Trucks:	64.2	62.8	53.7	55.0	63.3	63.4
Vehicle Noise:	72.3	70.6	67.6	62.7	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	122	262	565	1,218
CNEL:	131	282	608	1,311

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: Driveway 4 to Santiago Drive

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 47,000 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 4,700 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.90	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.34	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.30	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.7	68.8	67.1	61.0	69.6	70.3
Medium Trucks:	64.1	62.6	56.3	54.7	63.2	63.4
Heavy Trucks:	64.2	62.8	53.7	55.0	63.3	63.4
Vehicle Noise:	72.3	70.6	67.6	62.7	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	122	262	565	1,218
CNEL:	131	282	608	1,311

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: Santiago Drive to Iris Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 50,297 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 5,030 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.19	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.05	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.00	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.0	69.1	67.4	61.3	69.9	70.5
Medium Trucks:	64.4	62.9	56.6	55.0	63.5	63.7
Heavy Trucks:	64.5	63.0	54.0	55.3	63.6	63.7
Vehicle Noise:	72.6	70.9	67.9	63.0	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	127	275	592	1,275
CNEL:	137	295	636	1,371

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: South of Iris Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 47,000 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 4,700 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.90	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.34	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.30	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.7	68.8	67.1	61.0	69.6	70.3
Medium Trucks:	64.1	62.6	56.3	54.7	63.2	63.4
Heavy Trucks:	64.2	62.8	53.7	55.0	63.3	63.4
Vehicle Noise:	72.3	70.6	67.6	62.7	71.3	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	122	262	565	1,218
CNEL:	131	282	608	1,311

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: North of Krameria Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 50,000 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 5,000 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.17	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.07	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.03	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.0	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	64.4	62.9	56.5	55.0	63.5	63.7
Heavy Trucks:	64.4	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	72.6	70.8	67.9	63.0	71.6	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	127	274	589	1,270
CNEL:	137	294	634	1,366

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: South of Krameria Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 50,000 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 5,000 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.17	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.07	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.03	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.0	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	64.4	62.9	56.5	55.0	63.5	63.7
Heavy Trucks:	64.4	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	72.6	70.8	67.9	63.0	71.6	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	127	274	589	1,270
CNEL:	137	294	634	1,366

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Perris Boulevard
Road Segment: North of San Michele Road

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 50,000 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 5,000 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.17	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.07	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.03	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.0	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	64.4	62.9	56.5	55.0	63.5	63.7
Heavy Trucks:	64.4	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	72.6	70.8	67.9	63.0	71.6	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	127	274	589	1,270
CNEL:	137	294	634	1,366

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Perris Boulevard
Road Segment: San Michele Road to Nandina Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 55,000 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 5,500 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.58	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.66	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.61	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.4	69.5	67.8	61.7	70.3	70.9
Medium Trucks:	64.8	63.3	56.9	55.4	63.9	64.1
Heavy Trucks:	64.9	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	73.0	71.2	68.3	63.4	72.0	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	135	291	628	1,353
CNEL:	146	314	676	1,456

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Perris Boulevard
Road Segment: South of Nandina Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 53,000 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 5,300 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.42	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.82	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.77	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.3	69.4	67.6	61.5	70.2	70.8
Medium Trucks:	64.7	63.2	56.8	55.2	63.7	63.9
Heavy Trucks:	64.7	63.3	54.2	55.5	63.8	64.0
Vehicle Noise:	72.9	71.1	68.1	63.3	71.9	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	132	284	613	1,320
CNEL:	142	306	659	1,420

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Perris Boulevard
Road Segment: North of Harley Knox Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 53,000 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 5,300 vehicles
Vehicle Speed: 45 mph
Near/Far Lane Distance: 24 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.403
Medium Trucks: 99.314
Heavy Trucks: 99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	5.29	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-11.95	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-15.90	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.0	66.1	64.3	58.3	66.9	67.5
Medium Trucks:	61.7	60.2	53.8	52.3	60.8	61.0
Heavy Trucks:	62.6	61.2	52.1	53.4	61.7	61.8
Vehicle Noise:	69.8	68.1	64.9	60.2	68.8	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	83	179	385	829
CNEL:	89	192	413	890

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Perris Boulevard
Road Segment: South of Harley Knox Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 41,000 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 4,100 vehicles
Vehicle Speed: 45 mph
Near/Far Lane Distance: 24 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.403
Medium Trucks: 99.314
Heavy Trucks: 99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	4.18	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-13.06	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-17.02	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	65.0	63.2	57.1	65.8	66.4
Medium Trucks:	60.6	59.1	52.7	51.2	59.7	59.9
Heavy Trucks:	61.5	60.0	51.0	52.3	60.6	60.7
Vehicle Noise:	68.7	67.0	63.8	59.1	67.7	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	70	151	324	699
CNEL:	75	162	348	750

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project
Road Name: Perris Boulevard
Road Segment: North of Ramona Expressway

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 40,000 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 4,000 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.20	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-14.04	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.00	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.3	67.4	65.6	59.5	68.2	68.8
Medium Trucks:	62.6	61.1	54.8	53.2	61.7	61.9
Heavy Trucks:	62.7	61.3	52.2	53.5	61.6	62.0
Vehicle Noise:	70.8	69.1	66.1	61.2	69.6	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	97	209	450	970
CNEL:	104	225	484	1,043

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project | Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard | Job Number: 8870
Road Segment: South of Ramona Expressway

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 31,000 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 3,100 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.09	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.15	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.10	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.9	67.0	65.3	59.2	67.8	68.4
Medium Trucks:	62.3	60.8	54.5	52.9	61.4	61.6
Heavy Trucks:	62.4	60.9	51.9	53.2	61.5	61.6
Vehicle Noise:	70.5	68.8	65.8	60.9	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	92	199	428	923
CNEL:	99	214	461	993

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project | Project Name: Moreno Valley Walmart
Road Name: Kitching Street | Job Number: 8870
Road Segment: North of Cactus Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 17,130 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,713 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.48	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.72	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.68	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.6	63.7	61.9	55.9	64.5	65.1
Medium Trucks:	59.0	57.5	51.1	49.6	58.0	58.2
Heavy Trucks:	59.0	57.6	48.5	49.8	58.1	58.3
Vehicle Noise:	67.2	65.4	62.4	57.6	66.1	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	55	119	256	551
CNEL:	59	126	275	593

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project | Project Name: Moreno Valley Walmart
Road Name: Kitching Street | Job Number: 8870
Road Segment: South of Cactus Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 17,235 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,724 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	0.92	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-16.31	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-20.27	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.6	59.7	58.0	51.9	60.5	61.1
Medium Trucks:	55.6	54.1	47.7	46.2	54.6	54.9
Heavy Trucks:	56.9	55.5	46.5	47.7	56.1	56.2
Vehicle Noise:	63.6	61.9	58.6	54.1	62.6	63.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	32	69	149	321
CNEL:	34	74	160	344

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project | Project Name: Moreno Valley Walmart
Road Name: Kitching Street | Job Number: 8870
Road Segment: North of John F. Kennedy Drive

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 19,543 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,954 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	1.47	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-15.77	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-19.72	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.2	60.3	58.5	52.4	61.1	61.7
Medium Trucks:	56.1	54.6	48.3	46.7	55.2	55.4
Heavy Trucks:	57.5	56.0	47.0	48.3	56.6	56.7
Vehicle Noise:	64.2	62.4	59.2	54.6	63.2	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	35	75	162	350
CNEL:	37	81	174	374

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project | Project Name: Moreno Valley Walmart
Road Name: Kitching Street | Job Number: 8870
Road Segment: South of John F. Kennedy Drive

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 18,085 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,809 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	1.13	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-16.10	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-20.06	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.8	59.9	58.2	52.1	60.7	61.3
Medium Trucks:	55.8	54.3	47.9	46.4	54.8	55.1
Heavy Trucks:	57.1	55.7	46.7	47.9	56.3	56.4
Vehicle Noise:	63.8	62.1	58.8	54.3	62.8	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	72	154	332
CNEL:	36	77	165	355

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project | Project Name: Moreno Valley Walmart
Road Name: Kitching Street | Job Number: 8870
Road Segment: North of Iris Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 15,903 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,590 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.81	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.05	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.00	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.3	63.4	61.6	55.5	64.2	64.8
Medium Trucks:	58.6	57.1	50.8	49.2	57.7	57.9
Heavy Trucks:	58.7	57.3	48.2	49.5	57.8	58.0
Vehicle Noise:	66.9	65.1	62.1	57.2	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	52	113	243	524
CNEL:	56	122	262	564

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project — Project Name: Moreno Valley Walmart
Road Name: Kitching Street — Job Number: 8870
Road Segment: South of Iris Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 22,790 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,279 vehicles
Vehicle Speed: 45 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	1.63	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-15.61	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-19.57	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.4	62.5	60.7	54.6	63.3	63.9
Medium Trucks:	58.1	56.6	50.3	48.7	57.2	57.4
Heavy Trucks:	59.0	57.5	48.5	49.8	58.1	58.2
Vehicle Noise:	66.2	64.5	61.3	56.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	48	103	221	477
CNEL:	51	110	237	511

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project — Project Name: Moreno Valley Walmart
Road Name: Lasselle Street — Job Number: 8870
Road Segment: North of Iris Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 29,380 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,938 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.86	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.38	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.34	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.9	66.0	64.3	58.2	66.8	67.4
Medium Trucks:	61.3	59.8	53.4	51.9	60.4	60.6
Heavy Trucks:	61.3	59.9	50.9	52.1	60.5	60.6
Vehicle Noise:	69.5	67.7	64.8	59.9	68.5	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	79	170	366	790
CNEL:	85	183	394	849

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 Without Project — Project Name: Moreno Valley Walmart
Road Name: Lasselle Street — Job Number: 8870
Road Segment: South of Iris Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 35,200 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 3,520 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.64	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-14.60	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.55	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.7	66.8	65.0	59.0	67.6	68.2
Medium Trucks:	62.1	60.6	54.2	52.7	61.1	61.4
Heavy Trucks:	62.1	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	70.3	68.5	65.6	60.7	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	89	192	413	891
CNEL:	96	206	445	958

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project — Project Name: Moreno Valley Walmart
Road Name: Sunnymead Boulevard — Job Number: 8870
Road Segment: Perris Boulevard to SR-60 EB On-Ramp

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 29,096 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,910 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.82	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.42	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.38	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.9	66.0	64.2	58.2	66.8	67.4
Medium Trucks:	61.3	59.6	53.4	51.9	60.3	60.5
Heavy Trucks:	61.3	59.9	50.8	52.1	60.5	60.6
Vehicle Noise:	69.5	67.7	64.7	59.9	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	78	169	364	784
CNEL:	84	182	392	844

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project — Project Name: Moreno Valley Walmart
Road Name: Eucalyptus Avenue — Job Number: 8870
Road Segment: East of Perris Boulevard

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 15,096 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,510 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	0.35	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-16.89	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-20.85	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.0	59.1	57.4	51.3	59.9	60.5
Medium Trucks:	55.0	53.5	47.1	45.6	54.1	54.3
Heavy Trucks:	56.3	54.9	45.9	47.1	55.5	55.6
Vehicle Noise:	63.1	61.3	58.0	53.5	62.0	62.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	29	63	137	294
CNEL:	32	68	146	315

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project — Project Name: Moreno Valley Walmart
Road Name: Cottonwood Avenue — Job Number: 8870
Road Segment: West of Indian Street

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 15,952 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,595 vehicles
Vehicle Speed: 45 mph
Near/Far Lane Distance: 24 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 — Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.403
Medium Trucks: 99.314
Heavy Trucks: 99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.08	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-17.16	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-21.12	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.8	60.9	59.1	53.0	61.7	62.3
Medium Trucks:	56.5	55.0	48.6	47.1	55.6	55.8
Heavy Trucks:	57.4	55.9	46.9	48.2	56.5	56.6
Vehicle Noise:	64.6	62.9	59.7	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	37	80	173	372
CNEL:	40	86	185	400

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project — Project Name: Moreno Valley Walmart
Road Name: Cottonwood Avenue — Job Number: 8870
Road Segment: East of Indian Street

SITE SPECIFIC INPUT DATA / **NOISE MODEL INPUTS**

Highway Data

Average Daily Traffic (Adt): 13,145 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,315 vehicles
Vehicle Speed: 45 mph
Near/Far Lane Distance: 24 feet

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.403
Medium Trucks: 99.314
Heavy Trucks: 99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.76	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-18.00	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-21.96	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.9	60.0	58.3	52.2	60.8	61.4
Medium Trucks:	55.7	54.2	47.8	46.3	54.7	55.0
Heavy Trucks:	56.5	55.1	46.1	47.3	55.7	55.8
Vehicle Noise:	63.8	62.0	58.9	54.2	62.7	63.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	71	152	327
CNEL:	35	76	163	351

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project — Project Name: Moreno Valley Walmart
Road Name: Cottonwood Avenue — Job Number: 8870
Road Segment: West of Perris Boulevard

SITE SPECIFIC INPUT DATA / **NOISE MODEL INPUTS**

Highway Data

Average Daily Traffic (Adt): 20,096 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,010 vehicles
Vehicle Speed: 45 mph
Near/Far Lane Distance: 24 feet

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.403
Medium Trucks: 99.314
Heavy Trucks: 99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	1.08	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-16.16	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-20.11	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.8	61.9	60.1	54.0	62.7	63.3
Medium Trucks:	57.5	56.0	49.6	48.1	56.6	56.8
Heavy Trucks:	58.4	56.9	47.9	49.2	57.5	57.6
Vehicle Noise:	65.6	63.9	60.7	56.0	64.6	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	43	94	202	434
CNEL:	47	100	216	466

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project — Project Name: Moreno Valley Walmart
Road Name: Cottonwood Avenue — Job Number: 8870
Road Segment: East of Perris Boulevard

SITE SPECIFIC INPUT DATA / **NOISE MODEL INPUTS**

Highway Data

Average Daily Traffic (Adt): 18,192 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,819 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	1.16	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-16.08	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-20.03	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.9	60.0	58.2	52.1	60.8	61.4
Medium Trucks:	55.8	54.3	48.0	46.4	54.9	55.1
Heavy Trucks:	57.1	55.7	46.7	47.9	56.3	56.4
Vehicle Noise:	63.9	62.1	58.9	54.3	62.8	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	72	155	333
CNEL:	36	77	166	357

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project — Project Name: Moreno Valley Walmart
Road Name: Alessandro Boulevard — Job Number: 8870
Road Segment: West of Heacock Street

SITE SPECIFIC INPUT DATA / **NOISE MODEL INPUTS**

Highway Data

Average Daily Traffic (Adt): 54,364 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 5,436 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.53	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.71	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.66	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.4	69.5	67.7	61.7	70.3	70.9
Medium Trucks:	64.8	63.3	56.9	55.4	63.8	64.0
Heavy Trucks:	64.8	63.4	54.3	55.6	64.0	64.1
Vehicle Noise:	73.0	71.2	68.2	63.4	71.9	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	134	289	623	1,343
CNEL:	144	311	671	1,445

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project — Project Name: Moreno Valley Walmart
Road Name: Alessandro Boulevard — Job Number: 8870
Road Segment: East of Heacock Street

SITE SPECIFIC INPUT DATA / **NOISE MODEL INPUTS**

Highway Data

Average Daily Traffic (Adt): 48,192 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 4,819 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.01	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.23	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.19	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.9	69.0	67.2	61.1	69.8	70.4
Medium Trucks:	64.2	62.7	56.4	54.8	63.3	63.5
Heavy Trucks:	64.3	62.9	53.8	55.1	63.4	63.6
Vehicle Noise:	72.4	70.7	67.7	62.8	71.4	71.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	124	267	575	1,239
CNEL:	133	287	619	1,333

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project — Project Name: Moreno Valley Walmart
Road Name: Alessandro Boulevard — Job Number: 8870
Road Segment: West of Indian Street

SITE SPECIFIC INPUT DATA / **NOISE MODEL INPUTS**

Highway Data

Average Daily Traffic (Adt): 46,192 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 4,619 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.82	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.42	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.37	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.7	68.8	67.0	60.9	69.6	70.2
Medium Trucks:	64.1	62.6	56.2	54.6	63.1	63.3
Heavy Trucks:	64.1	62.7	53.6	54.9	63.2	63.4
Vehicle Noise:	72.2	70.5	67.5	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	120	259	558	1,204
CNEL:	130	279	601	1,298

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Scenario: Year 2035 With Project
Road Name: Alessandro Boulevard
Road Segment: East of Indian Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	43,096 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	4,310 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	87.316			
Road Grade:	0.0%	Medium Trucks:	87.214			
Left View:	-90.0 degrees	Heavy Trucks:	87.224			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.52	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.72	-3.73	-1.20	-4.59	0.000	0.000
Heavy Trucks:	86.40	-17.87	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.4	68.5	66.7	60.6	69.3	69.9
Medium Trucks:	63.8	62.3	55.9	54.3	62.8	63.0
Heavy Trucks:	63.8	62.4	53.3	54.6	62.9	63.1
Vehicle Noise:	71.9	70.2	67.2	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	115	248	534	1,150
CNEL:	124	267	574	1,237

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FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Scenario: Year 2035 With Project
Road Name: Alessandro Boulevard
Road Segment: West of Perris Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	43,096 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	4,310 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	87.316			
Road Grade:	0.0%	Medium Trucks:	87.214			
Left View:	-90.0 degrees	Heavy Trucks:	87.224			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.52	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.72	-3.73	-1.20	-4.59	0.000	0.000
Heavy Trucks:	86.40	-17.87	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.4	68.5	66.7	60.6	69.3	69.9
Medium Trucks:	63.8	62.3	55.9	54.3	62.8	63.0
Heavy Trucks:	63.8	62.4	53.3	54.6	62.9	63.1
Vehicle Noise:	71.9	70.2	67.2	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	115	248	534	1,150
CNEL:	124	267	574	1,237

Friday, November 08, 2013

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Scenario: Year 2035 With Project
Road Name: Alessandro Boulevard
Road Segment: East of Perris Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	48,088 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	4,810 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.76	3.81	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.42	-4.51	-1.20	-4.65	0.000	0.000
Heavy Trucks:	86.40	-17.38	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.9	68.0	66.2	60.2	68.8	69.4
Medium Trucks:	63.3	61.9	55.4	53.8	62.3	62.5
Heavy Trucks:	63.3	61.9	52.8	54.1	62.4	62.6
Vehicle Noise:	71.5	69.7	66.7	61.8	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	107	230	495	1,066
CNEL:	115	247	532	1,147

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FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Scenario: Year 2035 With Project
Road Name: Cactus Avenue
Road Segment: West of I-215 Freeway

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	42,000 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	4,200 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.41	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.83	-4.51	-1.20	-4.59	0.000	0.000
Heavy Trucks:	86.40	-17.78	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.5	67.6	65.8	59.8	68.4	69.0
Medium Trucks:	62.9	61.4	55.0	53.4	61.9	62.1
Heavy Trucks:	62.9	61.5	52.4	53.7	62.0	62.2
Vehicle Noise:	71.0	69.3	66.3	61.5	70.0	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	100	216	465	1,002
CNEL:	108	232	500	1,078

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FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Scenario: Year 2035 With Project
Road Name: Cactus Avenue
Road Segment: I-215 SB Ramps to I-215 NB Ramps

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	47,000 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	4,700 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.90	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.34	-4.51	-1.20	-4.59	0.000	0.000
Heavy Trucks:	86.40	-17.30	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.0	68.1	66.3	60.2	68.9	69.5
Medium Trucks:	63.3	61.9	55.5	53.9	62.4	62.6
Heavy Trucks:	63.4	62.0	52.9	54.2	62.5	62.7
Vehicle Noise:	71.5	69.8	66.8	61.9	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	108	235	501	1,080
CNEL:	116	250	539	1,162

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FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Scenario: Year 2035 With Project
Road Name: Cactus Avenue
Road Segment: East of I-215 NB Ramps

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	55,700 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	5,570 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.76	5.35	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-11.89	-4.51	-1.20	-4.65	0.000	0.000
Heavy Trucks:	86.40	-15.84	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.4	69.5	67.7	61.7	70.3	70.9
Medium Trucks:	64.8	63.3	56.8	55.4	63.9	64.1
Heavy Trucks:	64.8	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	73.0	71.2	68.3	63.4	72.0	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	135	291	627	1,350
CNEL:	145	313	674	1,453

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Cactus Avenue
Road Segment: West of Elsworth Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	63,400 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	6,340 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.76	5.20	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.04	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.00	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.3	69.4	67.6	61.5	70.2	70.8
Medium Trucks:	64.8	63.1	58.8	55.2	63.7	63.9
Heavy Trucks:	64.7	63.3	54.2	55.5	63.8	64.0
Vehicle Noise:	72.6	71.1	68.1	62.2	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	132	284	612	1,318
CNEL:	142	306	658	1,416

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Cactus Avenue
Road Segment: East of Elsworth Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	59,450 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	5,945 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	97.316			
Road Grade:	0.0%	Medium Trucks:	97.214			
Left View:	-90.0 degrees	Heavy Trucks:	97.224			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.85	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.39	-3.73	-1.20	-4.59	0.000	0.000
Heavy Trucks:	86.40	-16.35	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.7	69.8	68.0	62.0	70.6	71.2
Medium Trucks:	65.1	63.6	57.2	55.7	64.1	64.4
Heavy Trucks:	65.1	63.7	54.7	55.9	64.3	64.4
Vehicle Noise:	73.3	71.5	68.8	63.7	72.2	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	141	304	654	1,409
CNEL:	152	327	704	1,516

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Cactus Avenue
Road Segment: West of Frederick Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	59,581 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	5,958 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	97.316			
Road Grade:	0.0%	Medium Trucks:	97.214			
Left View:	-90.0 degrees	Heavy Trucks:	97.224			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.76	5.00	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.24	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.19	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.8	69.9	68.2	62.1	70.7	71.4
Medium Trucks:	65.2	63.7	57.4	55.8	64.3	64.5
Heavy Trucks:	65.3	63.9	54.8	56.1	64.4	64.5
Vehicle Noise:	73.4	71.7	69.0	63.8	72.4	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	144	311	670	1,443
CNEL:	155	334	721	1,552

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Cactus Avenue
Road Segment: East of Frederick Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	62,836 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	6,284 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	97.316			
Road Grade:	0.0%	Medium Trucks:	97.214			
Left View:	-90.0 degrees	Heavy Trucks:	97.224			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	5.16	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.08	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.03	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	72.0	70.1	68.3	62.3	70.9	71.5
Medium Trucks:	65.4	63.9	57.5	56.0	64.4	64.7
Heavy Trucks:	65.4	64.0	55.0	56.2	64.6	64.7
Vehicle Noise:	73.6	71.8	68.8	64.0	72.5	73.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	148	319	688	1,479
CNEL:	159	343	738	1,591

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Cactus Avenue
Road Segment: West of Graham Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	59,572 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	5,957 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	97.316			
Road Grade:	0.0%	Medium Trucks:	97.214			
Left View:	-90.0 degrees	Heavy Trucks:	97.224			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.93	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.31	-3.73	-1.20	-4.59	0.000	0.000
Heavy Trucks:	86.40	-16.27	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.8	69.9	68.1	62.1	70.7	71.3
Medium Trucks:	65.2	63.7	57.3	55.9	64.2	64.4
Heavy Trucks:	65.2	63.8	54.7	56.0	64.3	64.5
Vehicle Noise:	73.4	71.6	68.8	63.8	72.3	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	143	307	662	1,427
CNEL:	154	331	712	1,535

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Cactus Avenue
Road Segment: East of Graham Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	55,142 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	5,514 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	97.316			
Road Grade:	0.0%	Medium Trucks:	97.214			
Left View:	-90.0 degrees	Heavy Trucks:	97.224			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.76	4.59	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.65	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.60	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.4	69.5	67.8	61.7	70.3	70.9
Medium Trucks:	64.8	63.3	57.0	55.4	63.9	64.1
Heavy Trucks:	64.9	63.4	54.4	55.7	64.0	64.1
Vehicle Noise:	73.0	71.3	68.3	63.4	72.0	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	136	292	628	1,355
CNEL:	146	314	677	1,458

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Cactus Avenue
Road Segment: West of Heacock Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 50,768 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 5,077 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.23	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.00	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.96	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.1	69.2	67.4	61.4	70.0	70.6
Medium Trucks:	64.5	63.0	56.6	55.1	63.5	63.8
Heavy Trucks:	64.5	63.1	54.0	55.3	63.7	63.8
Vehicle Noise:	72.7	70.9	67.9	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	128	276	595	1,283
CNEL:	139	297	640	1,380

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Cactus Avenue
Road Segment: East of Heacock Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 43,555 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 4,356 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.57	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.67	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.63	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.6	67.7	66.0	59.9	68.5	69.1
Medium Trucks:	63.0	61.5	55.1	53.6	62.1	62.3
Heavy Trucks:	63.1	61.6	52.6	53.8	62.2	62.3
Vehicle Noise:	71.2	69.4	66.5	61.8	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	103	221	476	1,027
CNEL:	110	238	513	1,104

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Cactus Avenue
Road Segment: West of Indian Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 39,564 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 3,956 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.15	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-14.09	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.04	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.2	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	62.6	61.1	54.7	53.2	61.6	61.9
Heavy Trucks:	62.6	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	70.8	69.0	66.1	61.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	96	207	447	963
CNEL:	104	223	481	1,038

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Cactus Avenue
Road Segment: East of Indian Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 39,331 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 3,933 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.12	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-14.11	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.07	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.2	67.3	65.5	59.5	68.1	68.7
Medium Trucks:	62.6	61.1	54.7	53.2	61.6	61.9
Heavy Trucks:	62.6	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	70.8	69.0	66.0	61.2	69.7	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	96	207	446	959
CNEL:	103	222	479	1,032

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Cactus Avenue
Road Segment: West of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 37,000 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 3,700 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.86	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-14.38	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.33	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.9	67.0	65.3	59.2	67.8	68.4
Medium Trucks:	62.3	60.8	54.4	52.9	61.4	61.6
Heavy Trucks:	62.3	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	70.5	68.7	65.8	60.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	92	198	427	921
CNEL:	99	213	460	991

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Cactus Avenue
Road Segment: East of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 32,096 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 3,210 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.24	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.00	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.95	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.3	66.4	64.6	58.6	67.2	67.8
Medium Trucks:	61.7	60.2	53.8	52.3	60.7	61.0
Heavy Trucks:	61.7	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	69.9	68.1	65.2	60.3	68.8	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	84	180	389	837
CNEL:	90	194	418	901

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Cactus Avenue
Road Segment: East of Kitching Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,117 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,512 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.18	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.06	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.02	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.2	65.3	63.6	57.5	66.1	66.7
Medium Trucks:	60.6	59.1	52.6	51.2	59.7	59.9
Heavy Trucks:	60.7	59.2	50.2	51.5	59.8	59.9
Vehicle Noise:	68.8	67.1	64.1	59.2	67.8	68.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	71	153	330	711
CNEL:	77	165	355	765

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: John F. Kennedy Drive
Road Segment: West of Heacock Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,096 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,810 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.76	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.99	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.96	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.3	63.4	61.6	55.6	64.2	64.8
Medium Trucks:	58.7	57.2	50.8	49.3	57.7	58.0
Heavy Trucks:	58.7	57.3	48.3	49.5	57.9	58.0
Vehicle Noise:	66.9	65.1	62.2	57.3	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	53	114	245	529
CNEL:	57	123	264	569

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: John F. Kennedy Drive
Road Segment: East of Heacock Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,451 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,545 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.93	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.17	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.13	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.1	63.2	61.5	55.4	64.0	64.6
Medium Trucks:	58.5	57.0	50.6	49.1	57.6	57.8
Heavy Trucks:	58.6	57.1	48.1	49.3	57.7	57.8
Vehicle Noise:	66.7	64.9	62.0	57.1	65.7	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	51	111	239	514
CNEL:	55	119	257	553

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: John F. Kennedy Drive
Road Segment: West of Indian Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,044 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,004 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.20	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.04	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.00	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.3	64.4	62.6	56.5	65.2	65.8
Medium Trucks:	59.6	58.1	51.6	50.2	58.7	58.9
Heavy Trucks:	59.7	58.3	49.2	50.5	58.8	59.0
Vehicle Noise:	67.8	66.1	63.1	58.2	66.8	67.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	61	132	284	612
CNEL:	66	142	306	658

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: John F. Kennedy Drive
Road Segment: East of Indian Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,200 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,120 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.44	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.80	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.76	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.5	64.6	62.8	56.8	65.4	66.0
Medium Trucks:	59.9	58.4	52.0	50.5	58.9	59.2
Heavy Trucks:	59.9	58.5	49.5	50.7	59.1	59.2
Vehicle Noise:	68.1	66.3	63.4	58.5	67.0	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	64	137	295	635
CNEL:	68	147	317	683

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: John F. Kennedy Drive
Road Segment: West of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,580 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.28	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.94	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.90	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.4	65.5	63.7	57.6	66.3	66.9
Medium Trucks:	60.7	59.2	52.9	51.3	59.8	60.0
Heavy Trucks:	60.8	59.4	50.3	51.6	59.9	60.1
Vehicle Noise:	68.9	67.2	64.2	59.3	67.9	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	72	156	336	724
CNEL:	78	168	362	779

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: John F. Kennedy Drive
Road Segment: East of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,352 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,135 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.14	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.10	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.06	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.2	66.3	64.5	58.5	67.1	67.7
Medium Trucks:	61.6	60.1	53.7	52.2	60.6	60.9
Heavy Trucks:	61.6	60.2	51.2	52.4	60.8	60.9
Vehicle Noise:	69.8	68.0	65.1	60.2	68.7	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	82	178	383	824
CNEL:	89	191	412	887

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: John F. Kennedy Drive
Road Segment: West of Kitching Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,026 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,003 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.95	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.29	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.24	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.0	66.1	64.3	58.3	66.9	67.5
Medium Trucks:	61.4	59.9	53.5	52.0	60.5	60.7
Heavy Trucks:	61.4	60.0	51.0	52.2	60.6	60.7
Vehicle Noise:	69.6	67.8	64.9	60.0	68.6	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	80	173	372	801
CNEL:	86	186	400	862

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: John F. Kennedy Drive
Road Segment: East of Kitching Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,824 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,682 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.46	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.78	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.73	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.5	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.9	59.4	53.0	51.5	60.0	60.2
Heavy Trucks:	61.0	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	69.1	67.3	64.4	59.5	68.1	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	74	160	345	743
CNEL:	80	172	371	799

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Gentian Avenue
Road Segment: West of Indian Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,288 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	329 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-6.78	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-24.02	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-27.98	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.0	54.1	52.3	46.2	54.9	55.5
Medium Trucks:	49.7	48.2	41.8	40.3	48.8	49.0
Heavy Trucks:	50.8	49.1	40.1	41.4	49.7	49.8
Vehicle Noise:	57.8	56.1	52.9	48.2	56.8	57.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	13	28	61	131
CNEL:	14	30	65	141

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Gentian Avenue
Road Segment: East of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,596 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	760 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.83	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-19.87	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-23.83	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.1	56.2	54.4	48.3	57.0	57.6
Medium Trucks:	52.0	50.5	44.2	42.6	51.1	51.3
Heavy Trucks:	53.4	51.9	42.9	44.1	52.5	52.6
Vehicle Noise:	60.1	58.3	55.1	50.5	59.0	59.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	19	40	86	186
CNEL:	20	43	93	199

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Santiago Drive
Road Segment: East of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,198 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	720 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.945
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.87	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-20.11	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-24.08	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.8	55.9	54.2	48.1	56.7	57.3
Medium Trucks:	51.8	50.3	43.9	42.4	50.8	51.1
Heavy Trucks:	53.1	51.7	42.7	43.9	52.3	52.4
Vehicle Noise:	59.8	58.1	54.8	50.3	58.8	59.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	18	39	83	180
CNEL:	19	41	89	192

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Iris Avenue
Road Segment: West of Indian Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 15,951 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,595 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	0.59	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-16.65	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-20.61	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.3	59.4	57.6	51.6	60.2	60.8
Medium Trucks:	55.3	53.7	47.4	45.8	54.3	54.5
Heavy Trucks:	56.8	55.2	48.1	47.4	55.7	55.9
Vehicle Noise:	63.3	61.6	58.3	53.7	62.3	62.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	31	66	142	305
CNEL:	33	70	152	327

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Iris Avenue
Road Segment: East of Indian Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 20,576 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,058 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.31	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-16.93	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.88	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.4	64.5	62.7	56.7	65.3	65.9
Medium Trucks:	59.8	58.3	51.9	50.3	58.8	59.0
Heavy Trucks:	59.8	58.4	49.3	50.6	58.9	59.1
Vehicle Noise:	68.0	66.2	63.2	58.4	66.9	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	62	134	289	623
CNEL:	67	144	311	670

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Iris Avenue
Road Segment: West of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 26,792 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,679 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.46	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.78	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.74	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.5	65.6	63.8	57.8	66.4	67.0
Medium Trucks:	60.9	59.4	53.0	51.5	60.0	60.2
Heavy Trucks:	60.9	59.5	50.5	51.7	60.1	60.2
Vehicle Noise:	69.1	67.3	64.4	59.5	68.1	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	74	160	345	742
CNEL:	80	172	371	799

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Iris Avenue
Road Segment: East of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 27,571 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,757 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.58	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.66	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.61	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.6	65.7	64.0	57.9	66.5	67.2
Medium Trucks:	61.0	59.5	53.2	51.6	60.1	60.3
Heavy Trucks:	61.1	59.6	50.6	51.9	60.2	60.3
Vehicle Noise:	69.2	67.5	64.5	59.6	68.2	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	76	163	351	757
CNEL:	81	175	378	814

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Iris Avenue
Road Segment: West of Kitching Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 32,206 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 3,221 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.26	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-14.98	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.94	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.3	66.4	64.7	58.6	67.2	67.8
Medium Trucks:	61.7	60.2	53.8	52.3	60.8	61.0
Heavy Trucks:	61.7	60.3	51.3	52.5	60.9	61.0
Vehicle Noise:	69.9	68.1	65.2	60.3	68.9	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	84	181	390	839
CNEL:	90	195	419	903

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Iris Avenue
Road Segment: East of Kitching Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 41,830 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 4,183 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.318
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.37	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.87	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.82	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.2	68.3	66.6	60.5	69.1	69.7
Medium Trucks:	63.6	62.1	55.7	54.2	62.7	62.9
Heavy Trucks:	63.6	62.2	53.2	54.4	62.8	62.9
Vehicle Noise:	71.8	70.0	67.1	62.2	70.8	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	112	242	522	1,124
CNEL:	121	260	561	1,209

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Iris Avenue
Road Segment: West of Lasselle Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,173 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,817 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.00	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-14.24	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.20	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.8	67.9	66.2	60.1	68.7	69.3
Medium Trucks:	63.2	61.7	55.4	53.6	62.3	62.5
Heavy Trucks:	63.3	61.8	52.8	54.1	62.4	62.5
Vehicle Noise:	71.4	69.7	66.7	61.8	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	106	228	492	1,061
CNEL:	114	246	530	1,141

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Iris Avenue
Road Segment: East of Lasselle Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,385 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,339 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.55	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.69	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.64	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.4	68.5	66.7	60.7	69.3	69.9
Medium Trucks:	63.8	62.3	55.9	54.4	62.8	63.1
Heavy Trucks:	63.8	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	72.0	70.2	67.3	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	116	249	536	1,155
CNEL:	124	266	577	1,243

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Krameria Avenue
Road Segment: East of Indian Street

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,096 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	810 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.403
Medium Trucks:	99.314
Heavy Trucks:	99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.67	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-20.11	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-24.08	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.8	57.9	56.1	50.1	58.7	59.3
Medium Trucks:	53.6	52.1	45.7	44.2	52.6	52.8
Heavy Trucks:	54.4	53.0	44.0	45.2	53.6	53.7
Vehicle Noise:	61.6	59.9	56.8	52.1	60.6	61.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	24	51	110	237
CNEL:	25	55	118	254

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Krameria Avenue
Road Segment: West of Perris Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,689 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,269 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.845
Medium Trucks:	99.856
Heavy Trucks:	99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.41	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-17.64	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-21.60	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.3	58.4	56.6	50.6	59.2	59.8
Medium Trucks:	54.3	52.8	46.4	44.8	53.3	53.5
Heavy Trucks:	55.8	54.2	45.1	46.4	54.7	54.9
Vehicle Noise:	62.3	60.6	57.3	52.7	61.3	61.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	26	56	122	262
CNEL:	28	60	130	281

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Krameria Avenue
Road Segment: East of Perris Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,621 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,862 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.82	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.85	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.81	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.4	63.5	61.8	55.7	64.3	65.0
Medium Trucks:	58.8	57.3	51.0	49.4	57.9	58.1
Heavy Trucks:	58.9	57.5	48.4	49.7	58.0	58.1
Vehicle Noise:	67.0	65.3	62.3	57.4	66.0	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	54	116	251	540
CNEL:	58	125	270	581

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Harley Knox Boulevard
Road Segment: West of Webster Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	39,288 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,929 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	24 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	99.403
Medium Trucks:	99.314
Heavy Trucks:	99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	3.99	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-13.25	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-17.20	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.7	64.8	63.0	57.0	65.6	66.2
Medium Trucks:	60.4	58.9	52.6	51.0	59.5	59.7
Heavy Trucks:	61.3	59.9	50.8	52.1	60.4	60.5
Vehicle Noise:	68.5	66.8	63.6	58.9	67.5	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	68	146	315	679
CNEL:	73	157	338	729

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Harley Knox Boulevard
Road Segment: East of Webster Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 39,576 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 3,958 vehicles
Vehicle Speed: 45 mph
Near/Far Lane Distance: 24 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.403
Medium Trucks: 99.314
Heavy Trucks: 99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	4.02	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-13.22	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-17.17	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.7	64.8	63.0	57.0	65.6	66.2
Medium Trucks:	60.5	59.0	52.6	51.0	59.5	59.7
Heavy Trucks:	61.3	59.9	50.8	52.1	60.5	60.6
Vehicle Noise:	68.5	66.8	63.6	59.0	67.5	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	68	147	317	683
CNEL:	73	158	340	732

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Harley Knox Boulevard
Road Segment: West of Indian Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 38,988 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 3,899 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.86	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-14.38	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.34	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.9	67.0	65.3	59.2	67.8	68.4
Medium Trucks:	62.3	60.8	54.4	52.9	61.4	61.6
Heavy Trucks:	62.3	60.9	51.9	53.1	61.5	61.6
Vehicle Noise:	70.5	68.7	65.8	60.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	92	198	427	921
CNEL:	99	213	460	990

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Harley Knox Boulevard
Road Segment: East of Indian Street
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 34,694 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 3,469 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.58	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-14.66	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.61	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.6	66.7	65.0	58.9	67.5	68.1
Medium Trucks:	62.0	60.5	54.2	52.6	61.1	61.3
Heavy Trucks:	62.1	60.6	51.6	52.9	61.2	61.3
Vehicle Noise:	70.2	68.5	65.5	60.6	69.2	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	88	190	409	882
CNEL:	95	204	440	949

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Harley Knox Boulevard
Road Segment: West of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 29,694 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,969 vehicles
Vehicle Speed: 45 mph
Near/Far Lane Distance: 24 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.403
Medium Trucks: 99.314
Heavy Trucks: 99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	2.78	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-14.46	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-18.42	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.5	63.6	61.8	55.7	64.4	65.0
Medium Trucks:	59.2	57.7	51.3	49.8	58.3	58.5
Heavy Trucks:	60.1	58.6	49.6	50.9	59.2	59.3
Vehicle Noise:	67.3	65.5	62.4	57.7	66.3	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	56	121	262	564
CNEL:	60	130	281	605

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Ramona Expressway
Road Segment: West of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 43,496 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 4,350 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.56	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.68	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.63	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.4	68.5	66.7	60.7	69.3	69.9
Medium Trucks:	63.8	62.3	55.9	54.4	62.8	63.1
Heavy Trucks:	63.8	62.4	53.4	54.6	63.0	63.1
Vehicle Noise:	72.0	70.2	67.3	62.4	70.9	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	116	249	537	1,157
CNEL:	124	268	578	1,245

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Ramona Expressway
Road Segment: East of Perris Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 45,485 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 4,549 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.78	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.48	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.44	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.6	68.7	66.9	60.9	69.5	70.1
Medium Trucks:	64.0	62.5	56.1	54.6	63.0	63.3
Heavy Trucks:	64.0	62.6	53.6	54.8	63.2	63.3
Vehicle Noise:	72.2	70.4	67.5	62.6	71.1	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	119	257	553	1,192
CNEL:	128	276	595	1,282

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Frederick Street
Road Segment: North of Cactus Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 12,851 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,285 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.73	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.97	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.93	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.3	62.4	60.7	54.6	63.2	63.8
Medium Trucks:	57.7	56.2	49.8	48.3	56.8	57.0
Heavy Trucks:	57.8	56.3	47.3	48.5	56.9	57.0
Vehicle Noise:	65.9	64.1	61.2	56.3	64.9	65.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	45	98	211	455
CNEL:	49	105	227	489

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Heacock Street
Road Segment: North of Alessandro Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 18,691 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,869 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.11	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.34	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.30	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.0	64.1	62.3	56.2	64.9	65.5
Medium Trucks:	59.3	57.8	51.5	49.9	58.4	58.8
Heavy Trucks:	59.4	58.0	48.9	50.2	58.5	58.7
Vehicle Noise:	67.5	65.8	62.8	57.9	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	58	126	271	584
CNEL:	63	135	292	628

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Heacock Street
Road Segment: North of Cactus Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 18,578 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,858 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.13	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.37	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.33	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.9	64.0	62.3	56.2	64.8	65.4
Medium Trucks:	59.3	57.8	51.4	49.8	58.4	58.6
Heavy Trucks:	59.4	57.9	48.9	50.1	58.5	58.6
Vehicle Noise:	67.5	65.7	62.8	57.9	66.5	66.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	58	125	270	582
CNEL:	63	135	290	626

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Indian Street
Road Segment: North of Cottonwood Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 12,762 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,276 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.845
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.36	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-17.62	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-21.57	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.3	58.4	56.7	50.6	59.2	59.8
Medium Trucks:	54.3	52.8	46.4	44.9	53.3	53.6
Heavy Trucks:	55.8	54.2	45.2	46.4	54.8	54.9
Vehicle Noise:	62.3	60.6	57.3	52.8	61.3	61.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	26	57	122	263
CNEL:	28	61	131	282

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Indian Street
Road Segment: North of Alessandro Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 15,665 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,567 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.87	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.11	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.07	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.2	63.3	61.5	55.5	64.1	64.7
Medium Trucks:	58.6	57.1	50.7	49.2	57.8	57.9
Heavy Trucks:	58.6	57.2	48.2	49.4	57.8	57.9
Vehicle Noise:	66.8	65.0	62.0	57.2	65.7	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	52	112	241	519
CNEL:	56	120	259	559

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Indian Street
Road Segment: North of Cactus Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 18,843 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,884 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.07	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.31	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.27	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.0	64.1	62.3	56.3	64.9	65.5
Medium Trucks:	59.4	57.9	51.5	50.0	58.4	58.7
Heavy Trucks:	59.4	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	67.6	65.9	62.9	58.0	66.5	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	59	127	273	587
CNEL:	63	136	293	632

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project — Project Name: Moreno Valley Walmart
Road Name: Indian Street — Job Number: 8870
Road Segment: South of John F. Kennedy Drive

SITE SPECIFIC INPUT DATA

Highway Data
Average Daily Traffic (Adt): 14,392 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,439 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data
Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)
Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)
Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)
Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-1.24	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-18.48	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.44	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.8	62.9	61.2	55.1	63.7	64.3
Medium Trucks:	58.2	56.7	50.3	48.8	57.3	57.5
Heavy Trucks:	58.2	56.8	47.8	49.0	57.4	57.5
Vehicle Noise:	66.4	64.6	61.7	56.8	65.4	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	49	106	228	491
CNEL:	53	114	245	528

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project — Project Name: Moreno Valley Walmart
Road Name: Indian Street — Job Number: 8870
Road Segment: North of Gentian Avenue

SITE SPECIFIC INPUT DATA

Highway Data
Average Daily Traffic (Adt): 13,458 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,346 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data
Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)
Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)
Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)
Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.15	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-17.39	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-21.34	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.5	58.6	56.9	50.8	59.4	60.1
Medium Trucks:	54.5	53.0	46.6	45.1	53.6	53.8
Heavy Trucks:	55.8	54.4	45.4	46.6	55.0	55.1
Vehicle Noise:	62.6	60.8	57.5	53.0	61.5	62.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	27	59	127	273
CNEL:	29	63	135	292

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project — Project Name: Moreno Valley Walmart
Road Name: Indian Street — Job Number: 8870
Road Segment: South of Iris Avenue

SITE SPECIFIC INPUT DATA

Highway Data
Average Daily Traffic (Adt): 10,184 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,018 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data
Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)
Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)
Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)
Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.36	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-18.59	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-22.55	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.3	57.4	55.7	49.6	58.2	58.8
Medium Trucks:	53.3	51.8	45.4	43.9	52.4	52.6
Heavy Trucks:	54.6	53.2	44.2	45.4	53.8	53.9
Vehicle Noise:	61.3	59.6	56.3	51.8	60.3	60.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	23	49	105	227
CNEL:	24	52	113	243

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project — Project Name: Moreno Valley Walmart
Road Name: Indian Street — Job Number: 8870
Road Segment: North of Krameria Avenue

SITE SPECIFIC INPUT DATA

Highway Data
Average Daily Traffic (Adt): 13,368 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,337 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data
Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)
Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)
Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)
Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.18	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-17.42	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-21.37	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.5	58.6	56.9	50.8	59.4	60.0
Medium Trucks:	54.5	53.0	46.6	45.1	53.5	53.8
Heavy Trucks:	55.8	54.4	45.4	46.6	55.0	55.1
Vehicle Noise:	62.5	60.8	57.5	53.0	61.5	61.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	27	58	126	271
CNEL:	29	63	135	291

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project — Project Name: Moreno Valley Walmart
Road Name: Indian Street — Job Number: 8870
Road Segment: South of Krameria Avenue

SITE SPECIFIC INPUT DATA

Highway Data
Average Daily Traffic (Adt): 18,872 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,887 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data
Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)
Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)
Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)
Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	1.32	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-15.92	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-19.88	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.0	60.1	58.3	52.3	60.9	61.5
Medium Trucks:	56.0	54.5	48.1	46.6	55.0	55.3
Heavy Trucks:	57.3	55.9	46.9	48.1	56.5	56.6
Vehicle Noise:	64.0	62.3	59.0	54.5	63.0	63.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	34	74	159	342
CNEL:	37	79	170	366

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project — Project Name: Moreno Valley Walmart
Road Name: Indian Street — Job Number: 8870
Road Segment: South of Harley Knox Boulevard

SITE SPECIFIC INPUT DATA

Highway Data
Average Daily Traffic (Adt): 29,598 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 2,960 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data
Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)
Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)
Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)
Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.68	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.35	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.30	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.0	66.1	64.3	58.2	66.9	67.5
Medium Trucks:	61.3	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	61.4	60.0	50.9	52.2	60.5	60.7
Vehicle Noise:	69.5	67.8	64.8	59.9	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	79	171	368	793
CNEL:	85	184	396	854

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Perris Boulevard
Road Segment: North of SR-60 WB Ramps

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 54,192 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 5,419 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.52	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.72	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.68	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.4	69.5	67.7	61.6	70.3	70.9
Medium Trucks:	64.8	63.2	56.9	55.3	63.8	64.0
Heavy Trucks:	64.8	63.4	54.3	55.6	63.9	64.1
Vehicle Noise:	72.9	71.2	68.2	63.4	71.9	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	134	289	622	1,340
CNEL:	144	310	669	1,441

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Perris Boulevard
Road Segment: SR-60 WB Ramps to Sunnymead Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 42,288 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 4,229 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.44	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.80	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.76	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.3	68.4	66.6	60.6	69.2	69.8
Medium Trucks:	63.7	62.2	55.8	54.3	62.7	63.0
Heavy Trucks:	63.7	62.3	53.3	54.5	62.9	63.0
Vehicle Noise:	71.9	70.1	67.1	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	114	245	527	1,135
CNEL:	122	263	567	1,222

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Perris Boulevard
Road Segment: South of Sunnymead Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 47,384 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 4,738 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.93	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.30	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.28	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.0	68.1	66.3	60.3	68.9	69.5
Medium Trucks:	63.4	61.9	55.5	54.0	62.4	62.7
Heavy Trucks:	63.4	62.0	53.0	54.2	62.6	62.7
Vehicle Noise:	71.6	69.8	66.9	62.0	70.5	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	109	234	504	1,086
CNEL:	117	252	542	1,168

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Perris Boulevard
Road Segment: North of Eucalyptus Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 46,385 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 4,639 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.84	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.40	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.36	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.9	68.0	66.2	60.2	68.8	69.4
Medium Trucks:	63.3	61.8	55.4	53.9	62.3	62.6
Heavy Trucks:	63.3	61.9	52.9	54.1	62.5	62.6
Vehicle Noise:	71.5	69.7	66.8	61.9	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	107	231	497	1,071
CNEL:	115	248	535	1,152

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Perris Boulevard
Road Segment: South of Eucalyptus Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 52,481 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 5,248 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.38	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.86	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.82	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.4	68.5	66.8	60.7	69.3	69.9
Medium Trucks:	63.8	62.3	56.0	54.4	62.9	63.1
Heavy Trucks:	63.9	62.4	53.4	54.7	63.0	63.1
Vehicle Noise:	72.0	70.3	67.3	62.4	71.0	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	116	250	540	1,162
CNEL:	125	269	580	1,250

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Perris Boulevard
Road Segment: North of Cottonwood Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 50,578 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 5,058 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.22	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.02	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.98	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.3	68.4	66.6	60.6	69.2	69.8
Medium Trucks:	63.7	62.2	55.8	54.3	62.7	62.9
Heavy Trucks:	63.7	62.3	53.2	54.5	62.9	63.0
Vehicle Noise:	71.9	70.1	67.1	62.3	70.8	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	113	244	526	1,134
CNEL:	122	263	566	1,220

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FHWA-RD-77-108 Highway Noise Prediction Model

Scenario: Year 2035 With Project
Road Name: Perris Boulevard
Road Segment: South of Cottonwood Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	45,986 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	4,667 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.79	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.45	-4.51	-1.20	-4.66	0.000	0.000
Heavy Trucks:	86.40	-17.40	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.9	68.0	66.2	60.1	66.8	69.4
Medium Trucks:	63.2	61.7	55.4	53.8	62.3	62.5
Heavy Trucks:	63.3	61.9	52.8	54.1	62.4	62.6
Vehicle Noise:	71.4	69.7	66.7	61.0	70.4	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	106	229	493	1,063
CNEL:	114	246	531	1,143

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FHWA-RD-77-108 Highway Noise Prediction Model

Scenario: Year 2035 With Project
Road Name: Perris Boulevard
Road Segment: North of Alessandro Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	47,396 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	4,787 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.88	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.26	-4.51	-1.20	-4.66	0.000	0.000
Heavy Trucks:	86.40	-17.22	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.0	68.1	66.4	60.3	68.9	69.5
Medium Trucks:	63.4	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	63.5	62.0	53.0	54.3	62.6	62.7
Vehicle Noise:	71.6	69.9	66.9	62.0	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	109	236	507	1,093
CNEL:	118	253	546	1,176

Friday, November 08, 2013

FHWA-RD-77-108 Highway Noise Prediction Model

Scenario: Year 2035 With Project
Road Name: Perris Boulevard
Road Segment: South of Alessandro Boulevard
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	48,058 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	4,808 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.00	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.24	-4.51	-1.20	-4.66	0.000	0.000
Heavy Trucks:	86.40	-17.20	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.1	68.2	66.4	60.3	69.0	69.6
Medium Trucks:	63.4	61.9	55.6	54.0	62.5	62.7
Heavy Trucks:	63.5	62.1	53.0	54.3	62.6	62.8
Vehicle Noise:	71.6	69.9	66.9	62.0	70.6	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	110	236	508	1,095
CNEL:	118	254	547	1,179

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FHWA-RD-77-108 Highway Noise Prediction Model

Scenario: Year 2035 With Project
Road Name: Perris Boulevard
Road Segment: North of Cactus Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	44,165 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	4,418 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.63	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.61	-4.51	-1.20	-4.66	0.000	0.000
Heavy Trucks:	86.40	-17.57	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.7	67.8	66.0	60.0	66.8	69.2
Medium Trucks:	63.1	61.8	55.2	53.7	62.1	62.4
Heavy Trucks:	63.1	61.7	52.7	53.8	62.3	62.4
Vehicle Noise:	71.3	69.5	66.6	61.7	70.2	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	104	223	481	1,036
CNEL:	111	240	517	1,114

Friday, November 08, 2013

FHWA-RD-77-108 Highway Noise Prediction Model

Scenario: Year 2035 With Project
Road Name: Perris Boulevard
Road Segment: South of Cactus Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	49,251 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	4,925 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	97.316			
Road Grade:	0.0%	Medium Trucks:	97.214			
Left View:	-90.0 degrees	Heavy Trucks:	97.224			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.10	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.14	-3.73	-1.20	-4.66	0.000	0.000
Heavy Trucks:	86.40	-17.09	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.8	68.9	67.3	61.2	68.9	70.5
Medium Trucks:	64.3	62.8	56.5	54.9	63.4	63.6
Heavy Trucks:	64.4	63.0	53.9	55.2	63.5	63.8
Vehicle Noise:	72.5	70.8	67.8	62.9	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	126	271	583	1,257
CNEL:	135	291	628	1,352

Friday, November 08, 2013

FHWA-RD-77-108 Highway Noise Prediction Model

Scenario: Year 2035 With Project
Road Name: Perris Boulevard
Road Segment: North of John F. Kennedy Drive
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	48,444 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	4,844 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	97.316			
Road Grade:	0.0%	Medium Trucks:	97.214			
Left View:	-90.0 degrees	Heavy Trucks:	97.224			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.85	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.39	-3.73	-1.20	-4.66	0.000	0.000
Heavy Trucks:	86.40	-17.35	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.7	68.8	67.0	61.0	69.6	70.2
Medium Trucks:	64.1	62.6	56.2	54.7	63.1	63.4
Heavy Trucks:	64.1	62.7	53.7	54.9	63.3	63.4
Vehicle Noise:	72.3	70.5	67.6	62.7	71.2	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	121	260	561	1,208
CNEL:	130	280	604	1,300

Friday, November 08, 2013

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: South of John F. Kennedy Drive

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	54,696 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	5,470 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.56	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.68	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.64	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.4	69.5	67.7	61.7	70.3	70.9
Medium Trucks:	64.8	63.3	56.9	55.4	63.8	64.1
Heavy Trucks:	64.8	63.4	54.4	55.6	64.0	64.1
Vehicle Noise:	73.0	71.2	68.3	63.4	71.9	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	135	290	626	1,348
CNEL:	145	312	673	1,450

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: North of Gentian Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,792 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	5,179 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.32	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.92	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.87	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.2	69.3	67.5	61.4	70.1	70.7
Medium Trucks:	64.6	63.0	56.7	55.1	63.6	63.8
Heavy Trucks:	64.6	63.2	54.1	55.4	63.7	63.9
Vehicle Noise:	72.7	71.0	68.0	63.2	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	130	280	603	1,300
CNEL:	140	301	649	1,398

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: Gentian Avenue to Driveway 3

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,858 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	5,086 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.22	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.01	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.97	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.1	69.2	67.4	61.4	70.0	70.6
Medium Trucks:	64.5	63.0	56.6	55.0	63.5	63.7
Heavy Trucks:	64.5	63.1	54.0	55.3	63.6	63.8
Vehicle Noise:	72.6	70.9	67.9	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	128	276	594	1,281
CNEL:	138	297	640	1,378

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: Driveway 3 to Driveway 4

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,887 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,989 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.16	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.08	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.04	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.0	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	64.4	62.9	56.5	55.0	63.4	63.7
Heavy Trucks:	64.4	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	72.6	70.8	67.9	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	127	273	588	1,268
CNEL:	136	294	633	1,364

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: Driveway 4 to Santiago Drive

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,888 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,989 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.16	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.08	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.04	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.0	69.1	67.3	61.3	69.9	70.5
Medium Trucks:	64.4	62.9	56.5	55.0	63.4	63.7
Heavy Trucks:	64.4	63.0	54.0	55.2	63.6	63.7
Vehicle Noise:	72.6	70.8	67.9	63.0	71.5	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	127	273	588	1,268
CNEL:	136	294	633	1,364

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project — Project Name: Moreno Valley Walmart
Road Name: Perris Boulevard — Job Number: 8870
Road Segment: Santiago Drive to Iris Avenue

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,281 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	5,328 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.44	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.80	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.75	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.3	69.4	67.6	61.6	70.2	70.8
Medium Trucks:	64.7	63.2	56.8	55.3	63.7	64.0
Heavy Trucks:	64.7	63.3	54.3	55.5	63.9	64.0
Vehicle Noise:	72.9	71.1	68.2	63.3	71.8	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	132	285	615	1,325
CNEL:	142	307	661	1,425

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Perris Boulevard
Road Segment: South of Iris Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,541 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,854 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.04	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.20	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.16	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.9	69.0	67.2	61.2	69.8	70.4
Medium Trucks:	64.3	62.8	56.4	54.9	63.3	63.6
Heavy Trucks:	64.3	62.9	53.9	55.1	63.5	63.6
Vehicle Noise:	72.5	70.7	67.7	62.9	71.4	71.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	124	268	576	1,245
CNEL:	134	289	622	1,339

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Perris Boulevard
Road Segment: North of Krameria Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,540 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	5,154 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.30	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.94	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.90	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.1	69.2	67.5	61.4	70.0	70.7
Medium Trucks:	64.5	63.0	56.7	55.1	63.6	63.8
Heavy Trucks:	64.6	63.2	54.1	55.4	63.7	63.8
Vehicle Noise:	72.7	71.0	68.0	63.1	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	130	279	601	1,296
CNEL:	139	300	647	1,394

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Perris Boulevard
Road Segment: South of Krameria Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,541 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	5,154 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.30	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.94	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.90	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.1	69.2	67.5	61.4	70.0	70.7
Medium Trucks:	64.5	63.0	56.7	55.1	63.6	63.8
Heavy Trucks:	64.6	63.2	54.1	55.4	63.7	63.8
Vehicle Noise:	72.7	71.0	68.0	63.1	71.7	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	130	279	601	1,296
CNEL:	139	300	647	1,394

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Perris Boulevard
Road Segment: North of San Michele Road

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,080 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	5,108 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.26	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.98	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.94	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.1	69.2	67.4	61.4	70.0	70.6
Medium Trucks:	64.5	63.0	56.6	55.1	63.5	63.8
Heavy Trucks:	64.5	63.1	54.1	55.3	63.7	63.8
Vehicle Noise:	72.7	70.9	68.0	63.1	71.6	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	129	277	596	1,287
CNEL:	139	298	643	1,385

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Perris Boulevard
Road Segment: San Michele Road to Nandina Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	55,964 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	5,596 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.66	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.58	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.54	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.5	69.6	67.8	61.8	70.4	71.0
Medium Trucks:	64.9	63.4	57.0	55.5	63.9	64.2
Heavy Trucks:	64.9	63.5	54.5	55.7	64.1	64.2
Vehicle Noise:	73.1	71.3	68.4	63.5	72.0	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	137	295	635	1,369
CNEL:	147	317	683	1,472

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Perris Boulevard
Road Segment: South of Nandina Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,868 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	5,387 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	98 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000
Medium Trucks:	2.297
Heavy Trucks:	8.006

Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos:	87.316
Medium Trucks:	87.214
Heavy Trucks:	87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.49	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-12.75	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.70	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.3	69.4	67.7	61.6	70.2	70.8
Medium Trucks:	64.7	63.2	56.9	55.3	63.8	64.0
Heavy Trucks:	64.8	63.3	54.3	55.6	63.9	64.0
Vehicle Noise:	72.9	71.2	68.2	63.3	71.9	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	133	287	619	1,334
CNEL:	144	309	666	1,435

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Perris Boulevard
Road Segment: North of Harley Knox Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 53,868 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 5,387 vehicles
Vehicle Speed: 45 mph
Near/Far Lane Distance: 24 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.403
Medium Trucks: 99.314
Heavy Trucks: 99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	5.36	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-11.88	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-15.83	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.0	66.1	64.4	58.3	66.9	67.6
Medium Trucks:	61.8	60.3	53.9	52.4	60.8	61.1
Heavy Trucks:	62.6	61.2	52.2	53.4	61.8	61.9
Vehicle Noise:	69.9	68.1	65.0	60.3	68.9	69.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	84	181	389	838
CNEL:	90	194	417	899

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Perris Boulevard
Road Segment: South of Harley Knox Boulevard

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 41,674 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 4,167 vehicles
Vehicle Speed: 45 mph
Near/Far Lane Distance: 24 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.403
Medium Trucks: 99.314
Heavy Trucks: 99.323

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	4.25	-4.58	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-12.99	-4.57	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-16.95	-4.57	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	65.0	63.3	57.2	65.8	66.4
Medium Trucks:	60.7	59.2	52.8	51.3	59.7	60.0
Heavy Trucks:	61.5	60.1	51.1	52.3	60.7	60.8
Vehicle Noise:	68.8	67.0	63.9	59.2	67.7	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	71	152	328	706
CNEL:	76	163	352	758

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Perris Boulevard
Road Segment: North of Ramona Expressway

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 40,673 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 4,067 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.27	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-13.97	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.92	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.3	67.4	65.7	59.6	68.2	68.8
Medium Trucks:	62.7	61.2	54.9	53.3	61.8	62.0
Heavy Trucks:	62.8	61.3	52.3	53.6	61.9	62.0
Vehicle Noise:	70.9	69.1	66.2	61.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	98	211	455	981
CNEL:	106	227	490	1,055

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Perris Boulevard
Road Segment: South of Ramona Expressway

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 31,192 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 3,119 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 98 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 87.316
Medium Trucks: 87.214
Heavy Trucks: 87.224

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.12	-3.74	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-15.12	-3.73	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.08	-3.73	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.0	67.1	65.3	59.2	67.9	68.5
Medium Trucks:	62.4	60.6	54.5	52.9	61.4	61.6
Heavy Trucks:	62.4	61.0	51.9	53.2	61.5	61.7
Vehicle Noise:	70.5	68.8	65.8	61.0	69.5	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	93	200	430	927
CNEL:	100	215	463	997

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Kitching Street
Road Segment: North of Cactus Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 17,418 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,742 vehicles
Vehicle Speed: 55 mph
Near/Far Lane Distance: 36 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 98.494
Medium Trucks: 98.404
Heavy Trucks: 98.413

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	-0.41	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.40	-17.65	-4.51	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.61	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.6	63.7	62.0	55.9	64.6	65.2
Medium Trucks:	59.0	57.5	51.2	49.6	58.1	58.3
Heavy Trucks:	59.1	57.7	48.6	49.9	58.2	58.3
Vehicle Noise:	67.2	65.5	62.5	57.6	66.2	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	56	120	259	557
CNEL:	60	129	278	599

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2035 With Project
Road Name: Kitching Street
Road Segment: South of Cactus Avenue

Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt): 17,811 vehicles
Peak Hour Percentage: 10%
Peak Hour Volume: 1,781 vehicles
Vehicle Speed: 40 mph
Near/Far Lane Distance: 12 feet

Site Data

Barrier Height: 0.0 feet
Barrier Type (0-Wall, 1-Berm): 0.0
Centerline Dist. to Barrier: 100.0 feet
Centerline Dist. to Observer: 100.0 feet
Barrier Distance to Observer: 0.0 feet
Observer Height (Above Pad): 5.0 feet
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet
Road Grade: 0.0%
Left View: -90.0 degrees
Right View: 90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0

Lane Equivalent Distance (in feet)

Autos: 99.945
Medium Trucks: 99.856
Heavy Trucks: 99.865

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	1.07	-4.82	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-16.17	-4.81	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-20.13	-4.81	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.8	59.9	58.1	52.0	60.7	61.3
Medium Trucks:	55.7	54.2	47.9	46.3	54.8	55.0
Heavy Trucks:	57.1	55.6	46.6	47.8	56.2	56.3
Vehicle Noise:	63.8	62.0	58.8	54.2	62.8	63.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	71	153	329
CNEL:	35	76	163	352

FHWA-RD-77-108 Highway Noise Prediction Model

Scenario: Year 2035 With Project
Road Name: Kitching Street
Road Segment: North of John F. Kennedy Drive
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	20,217 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	2,022 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	40 mph	**Vehicle Mix**				
Near/Far Lane Distance:	12 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	99.945			
Road Grade:	0.0%	Medium Trucks:	99.856			
Left View:	-90.0 degrees	Heavy Trucks:	99.865			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	1.62	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-15.82	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-19.56	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.3	60.4	58.6	52.6	61.2	61.8
Medium Trucks:	58.3	54.8	48.4	48.9	55.3	55.6
Heavy Trucks:	57.8	56.2	47.2	48.4	56.8	56.9
Vehicle Noise:	64.3	62.6	58.3	54.0	63.3	63.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	96	77	166	358
CNEL:	98	82	176	380

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FHWA-RD-77-108 Highway Noise Prediction Model

Scenario: Year 2035 With Project
Road Name: Kitching Street
Road Segment: South of John F. Kennedy Drive
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	19,271 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	1,926 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	40 mph	**Vehicle Mix**				
Near/Far Lane Distance:	12 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	99.945			
Road Grade:	0.0%	Medium Trucks:	99.856			
Left View:	-90.0 degrees	Heavy Trucks:	99.865			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	1.19	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-16.06	-4.61	-1.20	-4.89	0.000	0.000
Heavy Trucks:	82.99	-20.01	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.9	60.0	58.2	52.2	60.9	61.4
Medium Trucks:	55.8	54.3	48.0	48.4	54.8	55.1
Heavy Trucks:	57.2	55.7	46.7	48.0	56.3	56.4
Vehicle Noise:	63.9	62.2	58.0	54.3	62.8	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	93	72	155	334
CNEL:	96	77	166	358

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FHWA-RD-77-108 Highway Noise Prediction Model

Scenario: Year 2035 With Project
Road Name: Kitching Street
Road Segment: North of Iris Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	18,889 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	1,600 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.76	-0.78	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.46	-18.02	-4.51	-1.20	-4.86	0.000	0.000
Heavy Trucks:	86.40	-21.99	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.3	63.4	61.8	55.8	64.2	64.8
Medium Trucks:	58.7	57.2	50.8	49.3	57.7	57.9
Heavy Trucks:	58.7	57.3	49.2	49.5	57.9	58.0
Vehicle Noise:	66.9	65.1	62.1	57.3	65.6	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	53	113	244	527
CNEL:	57	122	263	568

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FHWA-RD-77-108 Highway Noise Prediction Model

Scenario: Year 2035 With Project
Road Name: Kitching Street
Road Segment: South of Iris Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	22,886 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	2,269 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	45 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	1.64	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-15.58	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-19.56	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.4	62.5	60.7	54.7	63.3	63.9
Medium Trucks:	58.1	56.6	50.3	48.7	57.2	57.4
Heavy Trucks:	58.0	57.6	48.5	48.8	58.1	58.3
Vehicle Noise:	66.2	64.5	61.3	56.7	65.2	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	48	103	222	478
CNEL:	51	111	238	513

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FHWA-RD-77-108 Highway Noise Prediction Model

Scenario: Year 2035 With Project
Road Name: Lasselle Street
Road Segment: North of Iris Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	29,476 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	2,948 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.87	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.48	-15.37	-4.51	-1.20	-4.89	0.000	0.000
Heavy Trucks:	86.40	-19.32	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.8	66.0	64.3	58.2	66.9	67.4
Medium Trucks:	61.3	59.8	53.5	51.9	60.4	60.6
Heavy Trucks:	61.4	59.9	50.9	52.2	60.5	60.8
Vehicle Noise:	69.5	67.8	64.9	59.9	68.5	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	79	170	367	791
CNEL:	86	183	395	851

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FHWA-RD-77-108 Highway Noise Prediction Model

Scenario: Year 2035 With Project
Road Name: Lasselle Street
Road Segment: South of Iris Avenue
Project Name: Moreno Valley Walmart
Job Number: 8870

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		**Site Conditions (Hard = 10, Soft = 15)**				
Average Daily Traffic (Adt):	35,382 vehicles		Autos:	15		
Peak Hour Percentage:	10%		Medium Trucks (2 Axles):	15		
Peak Hour Volume:	3,538 vehicles		Heavy Trucks (3+ Axles):	15		
Vehicle Speed:	55 mph	**Vehicle Mix**				
Near/Far Lane Distance:	36 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height:	**0.0 feet**	Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier:	100.0 feet	**Noise Source Elevations (in feet)**				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment:	0.0	
Pad Elevation:	0.0 feet	**Lane Equivalent Distance (in feet)**				
Road Elevation:	0.0 feet	Autos:	98.494			
Road Grade:	0.0%	Medium Trucks:	98.404			
Left View:	-90.0 degrees	Heavy Trucks:	98.413			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.76	2.67	-4.52	-1.20	-4.77	0.000	0.000
Medium Trucks:	82.46	-14.57	-4.51	-1.20	-4.86	0.000	0.000
Heavy Trucks:	86.40	-18.53	-4.51	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.7	66.8	65.1	59.0	67.6	68.2
Medium Trucks:	62.1	60.6	54.2	52.7	61.2	61.4
Heavy Trucks:	62.2	60.7	51.7	52.9	61.3	61.4
Vehicle Noise:	70.3	68.5	65.6	60.7	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	89	193	415	894
CNEL:	96	207	446	962

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APPENDIX 9.1:

OPERATIONAL NOISE ANALYSIS WORKSHEETS

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STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Loading Dock Activities
Observer Location: R1

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	824.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier	814.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	8.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	20.0	77.3
Distance Attenuation	824.0	-32.3
Shielding (Barrier Attenuation)	824.0	-5.5
Raw (Distance + Barrier)		39.5
18 Minute Hourly Adjustment		**34.3**

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STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Trash Compactor
Observer Location: R1

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	833.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier	823.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	5.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	75.5
Distance Attenuation	833.0	-44.4
Shielding (Barrier Attenuation)	833.0	-5.5
Raw (Distance + Barrier)		25.6
20 Minute Hourly Adjustment		**20.8**

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STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Air Condenser Units
Observer Location: R1

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	822.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier:	812.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	25.0 feet		
Observer Height (Above Pad):	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation:	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	81.9
Distance Attenuation	822.0	-44.3
Shielding (Barrier Attenuation)	822.0	-5.3
Raw (Distance + Barrier)		32.3
30 Minute Hourly Adjustment		**29.3**

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STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Shopping Cart Carousel
Observer Location: R1

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	964.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier:	954.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	3.0 feet		
Observer Height (Above Pad):	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation:	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	72.9
Distance Attenuation	964.0	-45.7
Shielding (Barrier Attenuation)	964.0	-5.5
Raw (Distance + Barrier)		21.7
20 Minute Hourly Adjustment		**16.9**

Friday, July 18, 2014

STATIONARY SOURCE NOISE PREDICTION MODEL: v2014b2015

Source: Parking Lot Activity
Observer Location: R1

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	992.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier	982.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	4.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	60.1
Distance Attenuation	992.0	-46.0
Shielding (Barrier Attenuation)	992.0	-5.5
Raw (Distance + Barrier)		8.6
60 Minute Hourly Adjustment		**8.6**

Friday, July 18, 2014

STATIONARY SOURCE NOISE PREDICTION MODEL: v2014b2015

Source: Car Wash
Observer Location: R1

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	1,780.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier	1,770.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	9.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	10.0	76.5
Distance Attenuation	1,780.0	-45.0
Shielding (Barrier Attenuation)	1,780.0	-5.5
Raw (Distance + Barrier)		26.0
30 Minute Hourly Adjustment		**23.0**

Friday, July 18, 2014

STATIONARY SOURCE NOISE PREDICTION MODEL: v2014b2015

Source: Loading Dock Activities
Observer Location: R2

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	1,139.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier	1,129.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	8.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	20.0	77.3
Distance Attenuation	1,139.0	-35.1
Shielding (Barrier Attenuation)	1,139.0	-5.5
Raw (Distance + Barrier)		36.7
18 Minute Hourly Adjustment		**31.5**

Friday, July 18, 2014

STATIONARY SOURCE NOISE PREDICTION MODEL: v2014b2015

Source: Trash Compactor
Observer Location: R2

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	1,293.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier	1,283.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	5.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	75.5
Distance Attenuation	1,293.0	-48.3
Shielding (Barrier Attenuation)	1,293.0	-5.5
Raw (Distance + Barrier)		21.7
20 Minute Hourly Adjustment		**16.9**

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STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Air Condenser Units
Observer Location: R2

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	1,126.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier	1,116.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	25.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	81.9
Distance Attenuation	1,126.0	-47.1
Shielding (Barrier Attenuation)	1,126.0	-5.3
Raw (Distance + Barrier)		29.5
30 Minute Hourly Adjustment		**26.5**

STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Shopping Cart Carousel
Observer Location: R2

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	942.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier	932.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	3.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	72.9
Distance Attenuation	942.0	-45.5
Shielding (Barrier Attenuation)	942.0	-5.5
Raw (Distance + Barrier)		21.9
20 Minute Hourly Adjustment		**17.1**

STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Parking Lot Activity
Observer Location: R2

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	1,017.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier	1,007.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	4.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	60.1
Distance Attenuation	1,017.0	-46.2
Shielding (Barrier Attenuation)	1,017.0	-5.5
Raw (Distance + Barrier)		8.4
60 Minute Hourly Adjustment		**8.4**

STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Car Wash
Observer Location: R2

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	2,113.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier	2,103.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	9.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	10.0	76.5
Distance Attenuation	2,113.0	-46.5
Shielding (Barrier Attenuation)	2,113.0	-5.5
Raw (Distance + Barrier)		24.5
30 Minute Hourly Adjustment		**21.5**

STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Loading Dock Activities
Observer Location: R3

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	2,127.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier	2,117.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	8.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	20.0	77.3
Distance Attenuation	2,127.0	-40.5
Shielding (Barrier Attenuation)	2,127.0	-5.5
Raw (Distance + Barrier)		31.3
18 Minute Hourly Adjustment		**26.1**

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STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Trash Compactor
Observer Location: R3

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	2,343.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier	2,333.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	5.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	75.5
Distance Attenuation	2,343.0	-53.4
Shielding (Barrier Attenuation)	2,343.0	-5.5
Raw (Distance + Barrier)		16.6
20 Minute Hourly Adjustment		**11.8**

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STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Air Condenser Units
Observer Location: R3

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	1,968.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier	1,958.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	25.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	81.9
Distance Attenuation	1,968.0	-51.9
Shielding (Barrier Attenuation)	1,968.0	-5.4
Raw (Distance + Barrier)		24.6
30 Minute Hourly Adjustment		**21.6**

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STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Shopping Cart Carousel
Observer Location: R3

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	1,726.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier	1,716.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	3.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	72.9
Distance Attenuation	1,726.0	-50.8
Shielding (Barrier Attenuation)	1,726.0	-5.5
Raw (Distance + Barrier)		16.6
20 Minute Hourly Adjustment		**11.8**

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STATIONARY SOURCE NOISE PREDICTION MODEL: v2014b2mb

Source: Parking Lot Activity
Observer Location: R3

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	1,787.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier	1,777.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	4.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	60.1
Distance Attenuation	1,787.0	-51.1
Shielding (Barrier Attenuation)	1,787.0	-5.5
Raw (Distance + Barrier)		3.5
60 Minute Hourly Adjustment		**3.5**

STATIONARY SOURCE NOISE PREDICTION MODEL: v2014b2mb

Source: Car Wash
Observer Location: R3

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	2,717.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier	2,707.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	9.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	10.0	76.5
Distance Attenuation	2,717.0	-48.7
Shielding (Barrier Attenuation)	2,717.0	-5.5
Raw (Distance + Barrier)		22.3
30 Minute Hourly Adjustment		**19.3**

STATIONARY SOURCE NOISE PREDICTION MODEL: v2014b2mb

Source: Loading Dock Activities
Observer Location: R4

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	1,664.0 feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	1,664.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet		
Noise Height:	8.0 feet		
Observer Height (Above Pad):	5.0 feet		
		Barrier Breaks Line of Sight:	No
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation:	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	20.0	77.3
Distance Attenuation	1,664.0	-38.4
Shielding (Barrier Attenuation)	1,664.0	0.0
Raw (Distance + Barrier)		38.9
18 Minute Hourly Adjustment		**33.7**

STATIONARY SOURCE NOISE PREDICTION MODEL: v2014b2mb

Source: Trash Compactor
Observer Location: R4

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	1,832.0 feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	1,832.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet		
Noise Height:	5.0 feet		
Observer Height (Above Pad):	5.0 feet		
		Barrier Breaks Line of Sight:	No
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation:	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	75.5
Distance Attenuation	1,832.0	-51.3
Shielding (Barrier Attenuation)	1,832.0	0.0
Raw (Distance + Barrier)		24.2
20 Minute Hourly Adjustment		**19.4**

STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Air Condenser Units
Observer Location: R4

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	1,316.0 feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier	1,316.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet		
Noise Height:	25.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	No
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	81.9
Distance Attenuation	1,316.0	-48.4
Shielding (Barrier Attenuation)	1,316.0	0.0
Raw (Distance + Barrier)		33.5
30 Minute Hourly Adjustment		**30.5**

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STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Shopping Cart Carousel
Observer Location: R4

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	1,258.0 feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier	1,258.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet		
Noise Height:	3.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	No
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	72.9
Distance Attenuation	1,258.0	-48.0
Shielding (Barrier Attenuation)	1,258.0	0.0
Raw (Distance + Barrier)		24.9
20 Minute Hourly Adjustment		**20.1**

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STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Parking Lot Activity
Observer Location: R4

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	1,291.0 feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier	1,291.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet		
Noise Height:	4.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	No
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	60.1
Distance Attenuation	1,291.0	-48.2
Shielding (Barrier Attenuation)	1,291.0	0.0
Raw (Distance + Barrier)		11.9
60 Minute Hourly Adjustment		**11.9**

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STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Car Wash
Observer Location: R4

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	1,630.0 feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier	1,630.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet		
Noise Height:	9.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	No
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	10.0	76.5
Distance Attenuation	1,630.0	-44.2
Shielding (Barrier Attenuation)	1,630.0	0.0
Raw (Distance + Barrier)		32.3
30 Minute Hourly Adjustment		**29.3**

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STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Loading Dock Activities
Observer Location: R5

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	1,479.0 feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier	1,479.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet		
Noise Height:	8.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	No
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	20.0	77.3
Distance Attenuation	1,479.0	-37.4
Shielding (Barrier Attenuation)	1,479.0	0.0
Raw (Distance + Barrier)		39.9
18 Minute Hourly Adjustment		**34.7**

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STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Trash Compactor
Observer Location: R5

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	1,582.0 feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier	1,582.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet		
Noise Height:	5.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	No
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	75.5
Distance Attenuation	1,582.0	-50.0
Shielding (Barrier Attenuation)	1,582.0	0.0
Raw (Distance + Barrier)		25.5
20 Minute Hourly Adjustment		**20.7**

Friday, July 18, 2014

STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Air Condenser Units
Observer Location: R5

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	1,123.0 feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier	1,123.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet		
Noise Height:	25.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	No
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	81.9
Distance Attenuation	1,123.0	-47.0
Shielding (Barrier Attenuation)	1,123.0	0.0
Raw (Distance + Barrier)		34.9
30 Minute Hourly Adjustment		**31.9**

Friday, July 18, 2014

STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Shopping Cart Carousel
Observer Location: R5

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	899.0 feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	899.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet		
Noise Height:	3.0 feet		
Observer Height (Above Pad):	5.0 feet		
		Barrier Breaks Line of Sight:	No
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation:	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	72.9
Distance Attenuation	899.0	-45.1
Shielding (Barrier Attenuation)	899.0	0.0
Raw (Distance + Barrier)		27.8
20 Minute Hourly Adjustment		**23.0**

Friday, July 18, 2014

STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Parking Lot Activity
Observer Location: R5

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	938.0 feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier	938.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet		
Noise Height:	4.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	No
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	60.1
Distance Attenuation	938.0	-45.5
Shielding (Barrier Attenuation)	938.0	0.0
Raw (Distance + Barrier)		14.6
60 Minute Hourly Adjustment		**14.6**

Friday, July 18, 2014

STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Car Wash
Observer Location: R5

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	1,075.0 feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier	1,075.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet		
Noise Height:	9.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	No
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	10.0	76.5
Distance Attenuation	1,075.0	-40.6
Shielding (Barrier Attenuation)	1,075.0	0.0
Raw (Distance + Barrier)		35.9
30 Minute Hourly Adjustment		**32.9**

Friday, July 18, 2014

STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Loading Dock Activities
Observer Location: R6

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	1,587.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier:	1,577.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	8.0 feet		
Observer Height (Above Pad):	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation:	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	20.0	77.3
Distance Attenuation	1,587.0	-38.0
Shielding (Barrier Attenuation)	1,587.0	-5.5
Raw (Distance + Barrier)		33.8
18 Minute Hourly Adjustment		**28.6**

Friday, July 18, 2014

STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Trash Compactor
Observer Location: R6

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	1,604.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier:	1,594.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	5.0 feet		
Observer Height (Above Pad):	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation:	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	75.5
Distance Attenuation	1,604.0	-50.1
Shielding (Barrier Attenuation)	1,604.0	-5.5
Raw (Distance + Barrier)		19.9
20 Minute Hourly Adjustment		**15.1**

Friday, July 18, 2014

STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Air Condenser Units
Observer Location: R6

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	1,269.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier	1,259.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	25.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	81.9
Distance Attenuation	1,269.0	-48.1
Shielding (Barrier Attenuation)	1,269.0	-5.3
Raw (Distance + Barrier)		28.5
30 Minute Hourly Adjustment		**25.5**

Friday, July 18, 2014

STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Shopping Cart Carousel
Observer Location: R6

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	840.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier	830.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	3.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	72.9
Distance Attenuation	840.0	-44.5
Shielding (Barrier Attenuation)	840.0	-5.5
Raw (Distance + Barrier)		22.9
20 Minute Hourly Adjustment		**18.1**

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STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Parking Lot Activity
Observer Location: R6

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	914.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier:	904.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	4.0 feet		
Observer Height (Above Pad):	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation:	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	60.1
Distance Attenuation	914.0	-45.2
Shielding (Barrier Attenuation)	914.0	-5.5
Raw (Distance + Barrier)		9.4
60 Minute Hourly Adjustment		**9.4**

Friday, July 18, 2014

STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Car Wash
Observer Location: R6

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	721.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier:	711.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	9.0 feet		
Observer Height (Above Pad):	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation:	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	10.0	76.5
Distance Attenuation	721.0	-37.2
Shielding (Barrier Attenuation)	721.0	-5.4
Raw (Distance + Barrier)		33.9
30 Minute Hourly Adjustment		**30.9**

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STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Loading Dock Activities
Observer Location: R7

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	1,407.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier	1,397.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	8.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	20.0	77.3
Distance Attenuation	1,407.0	-36.9
Shielding (Barrier Attenuation)	1,407.0	-5.5
Raw (Distance + Barrier)		34.9
18 Minute Hourly Adjustment		**29.7**

Friday, July 18, 2014

STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Trash Compactor
Observer Location: R7

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	1,435.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier	1,425.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	5.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	75.5
Distance Attenuation	1,435.0	-49.2
Shielding (Barrier Attenuation)	1,435.0	-5.5
Raw (Distance + Barrier)		20.8
20 Minute Hourly Adjustment		**16.0**

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STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Air Condenser Units
Observer Location: R7

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	1,074.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier	1,064.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	25.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	81.9
Distance Attenuation	1,074.0	-46.6
Shielding (Barrier Attenuation)	1,074.0	-5.3
Raw (Distance + Barrier)		30.0
30 Minute Hourly Adjustment		**27.0**

Friday, July 18, 2014

STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Shopping Cart Carousel
Observer Location: R7

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	662.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier:	652.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	3.0 feet		
Observer Height (Above Pad):	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation:	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	72.9
Distance Attenuation	662.0	-42.4
Shielding (Barrier Attenuation)	662.0	-5.5
Raw (Distance + Barrier)		25.0
20 Minute Hourly Adjustment		**20.2**

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STATIONARY SOURCE NOISE PREDICTION MODEL: v2014b2mb

Source: Parking Lot Activity
Observer Location: R7

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	730.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier	720.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	4.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	60.1
Distance Attenuation	730.0	-43.3
Shielding (Barrier Attenuation)	730.0	-5.5
Raw (Distance + Barrier)		11.3
60 Minute Hourly Adjustment		**11.3**

STATIONARY SOURCE NOISE PREDICTION MODEL: v2014b2mb

Source: Car Wash
Observer Location: R7

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	498.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier	488.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	9.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	10.0	76.5
Distance Attenuation	498.0	-33.9
Shielding (Barrier Attenuation)	498.0	-5.4
Raw (Distance + Barrier)		37.2
30 Minute Hourly Adjustment		**34.2**

STATIONARY SOURCE NOISE PREDICTION MODEL: v2014b2mb

Source: Loading Dock Activities
Observer Location: R8

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	2,291.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier	2,281.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	8.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	20.0	77.3
Distance Attenuation	2,291.0	-41.2
Shielding (Barrier Attenuation)	2,291.0	-5.5
Raw (Distance + Barrier)		30.6
18 Minute Hourly Adjustment		**25.4**

STATIONARY SOURCE NOISE PREDICTION MODEL: v2014b2mb

Source: Trash Compactor
Observer Location: R8

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	2,496.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier	2,486.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	5.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	75.5
Distance Attenuation	2,496.0	-54.0
Shielding (Barrier Attenuation)	2,496.0	-5.5
Raw (Distance + Barrier)		16.0
20 Minute Hourly Adjustment		**11.2**

STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Air Condenser Units
Observer Location: R8

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	2,009.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier	1,999.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	25.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	81.9
Distance Attenuation	2,009.0	-52.1
Shielding (Barrier Attenuation)	2,009.0	-5.4
Raw (Distance + Barrier)		24.4
30 Minute Hourly Adjustment		**21.4**

STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Shopping Cart Carousel
Observer Location: R8

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	1,909.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier	1,899.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	3.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	72.9
Distance Attenuation	1,909.0	-51.6
Shielding (Barrier Attenuation)	1,909.0	-5.5
Raw (Distance + Barrier)		15.8
20 Minute Hourly Adjustment		**11.0**

STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Parking Lot Activity
Observer Location: R8

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	1,937.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier	1,927.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	4.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	60.1
Distance Attenuation	1,937.0	-51.8
Shielding (Barrier Attenuation)	1,937.0	-5.5
Raw (Distance + Barrier)		2.8
60 Minute Hourly Adjustment		**2.8**

STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Car Wash
Observer Location: R8

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	2,536.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier	2,526.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	9.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	10.0	76.5
Distance Attenuation	2,536.0	-48.1
Shielding (Barrier Attenuation)	2,536.0	-5.5
Raw (Distance + Barrier)		22.9
30 Minute Hourly Adjustment		**19.9**

STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Loading Dock Activities
Observer Location: R9

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	384.0 feet	***Barrier Height:***	**8.0 feet**
Noise Distance to Barrier	263.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	121.0 feet		
Noise Height:	8.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	20.0	77.3
Distance Attenuation	384.0	-25.7
Shielding (Barrier Attenuation)	384.0	-5.2
Raw (Distance + Barrier)		46.4
18 Minute Hourly Adjustment		**41.2**

Friday, July 18, 2014

STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Trash Compactor
Observer Location: R9

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	419.0 feet	***Barrier Height:***	**8.0 feet**
Noise Distance to Barrier	296.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	123.0 feet		
Noise Height:	5.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	75.5
Distance Attenuation	419.0	-38.5
Shielding (Barrier Attenuation)	419.0	-5.5
Raw (Distance + Barrier)		31.5
20 Minute Hourly Adjustment		**26.7**

Friday, July 18, 2014

STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Air Condenser Units
Observer Location: R9

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	312.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier:	302.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	25.0 feet		
Observer Height (Above Pad):	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation:	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	81.9
Distance Attenuation	312.0	-35.9
Shielding (Barrier Attenuation)	312.0	-5.1
Raw (Distance + Barrier)		40.9
30 Minute Hourly Adjustment		**37.9**

Friday, July 18, 2014

STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Shopping Cart Carousel
Observer Location: R9

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	278.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier:	268.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	3.0 feet		
Observer Height (Above Pad):	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation:	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	72.9
Distance Attenuation	278.0	-34.9
Shielding (Barrier Attenuation)	278.0	-5.6
Raw (Distance + Barrier)		32.4
20 Minute Hourly Adjustment		**27.6**

Friday, July 18, 2014

STATIONARY SOURCE NOISE PREDICTION MODEL: v2014b2015

Source: Parking Lot Activity
Observer Location: R9

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	250.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier	240.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	4.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	60.1
Distance Attenuation	250.0	-34.0
Shielding (Barrier Attenuation)	250.0	-5.5
Raw (Distance + Barrier)		20.6
60 Minute Hourly Adjustment		**20.6**

STATIONARY SOURCE NOISE PREDICTION MODEL: v2014b2015

Source: Car Wash
Observer Location: R9

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	928.0 feet	***Barrier Height:***	**6.0 feet**
Noise Distance to Barrier	918.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	10.0 feet		
Noise Height:	9.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	10.0	76.5
Distance Attenuation	928.0	-39.4
Shielding (Barrier Attenuation)	928.0	-5.5
Raw (Distance + Barrier)		31.6
30 Minute Hourly Adjustment		**28.6**

STATIONARY SOURCE NOISE PREDICTION MODEL: v2014b2015

Source: Loading Dock Activities
Observer Location: R10

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	639.0 feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	639.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet		
Noise Height:	8.0 feet		
Observer Height (Above Pad):	5.0 feet		
		Barrier Breaks Line of Sight:	No
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation:	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	20.0	77.3
Distance Attenuation	639.0	-30.1
Shielding (Barrier Attenuation)	639.0	0.0
Raw (Distance + Barrier)		47.2
18 Minute Hourly Adjustment		**42.0**

STATIONARY SOURCE NOISE PREDICTION MODEL: v2014b2015

Source: Trash Compactor
Observer Location: R10

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	768.0 feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	768.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet		
Noise Height:	5.0 feet		
Observer Height (Above Pad):	5.0 feet		
		Barrier Breaks Line of Sight:	No
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation:	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	75.5
Distance Attenuation	768.0	-43.7
Shielding (Barrier Attenuation)	768.0	0.0
Raw (Distance + Barrier)		31.8
20 Minute Hourly Adjustment		**27.0**

STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Air Condenser Units
Observer Location: R10

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	280.0 feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier	280.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet		
Noise Height:	25.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	No
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	81.9
Distance Attenuation	280.0	-35.0
Shielding (Barrier Attenuation)	280.0	0.0
Raw (Distance + Barrier)		46.9
30 Minute Hourly Adjustment		**43.9**

Friday, July 18, 2014

STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Shopping Cart Carousel
Observer Location: R10

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	176.0 feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier	176.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet		
Noise Height:	3.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	No
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	72.9
Distance Attenuation	176.0	-30.9
Shielding (Barrier Attenuation)	176.0	0.0
Raw (Distance + Barrier)		42.0
20 Minute Hourly Adjustment		**37.2**

Friday, July 18, 2014

STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Parking Lot Activity
Observer Location: R10

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	216.0 feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	216.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet		
Noise Height:	4.0 feet		
Observer Height (Above Pad):	5.0 feet		
		Barrier Breaks Line of Sight:	No
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation:	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	60.1
Distance Attenuation	216.0	-32.7
Shielding (Barrier Attenuation)	216.0	0.0
Raw (Distance + Barrier)		27.4
60 Minute Hourly Adjustment		**27.4**

Friday, July 18, 2014

STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDMS)

Source: Car Wash
Observer Location: R10

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	782.0 feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	782.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet		
Noise Height:	9.0 feet		
Observer Height (Above Pad):	5.0 feet		
		Barrier Breaks Line of Sight:	No
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation:	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	10.0	76.5
Distance Attenuation	782.0	-37.9
Shielding (Barrier Attenuation)	782.0	0.0
Raw (Distance + Barrier)		38.6
30 Minute Hourly Adjustment		**35.6**

Friday, July 18, 2014

STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDNS)

Source: Loading Dock Activities
Observer Location: R11

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	255.0 feet	***Barrier Height:***	**10.0 feet**
Noise Distance to Barrier	10.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	245.0 feet		
Noise Height:	8.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	20.0	77.3
Distance Attenuation	255.0	-22.1
Shielding (Barrier Attenuation)	255.0	-7.0
Raw (Distance + Barrier)		48.2
18 Minute Hourly Adjustment		**43.0**

Friday, July 18, 2014

STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDNS)

Source: Trash Compactor
Observer Location: R11

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	301.0 feet	***Barrier Height:***	**10.0 feet**
Noise Distance to Barrier	10.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	291.0 feet		
Noise Height:	5.0 feet		
Observer Height (Above Pad).	5.0 feet		
		Barrier Breaks Line of Sight:	Yes
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	75.5
Distance Attenuation	301.0	-35.6
Shielding (Barrier Attenuation)	301.0	-10.7
Raw (Distance + Barrier)		29.2
20 Minute Hourly Adjustment		**24.4**

Friday, July 18, 2014

STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDNS)

Source: Air Condenser Units
Observer Location: R11

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	260.0 feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	260.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet		
Noise Height:	25.0 feet		
Observer Height (Above Pad):	5.0 feet		
		Barrier Breaks Line of Sight:	No
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation:	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	81.9
Distance Attenuation	260.0	-34.3
Shielding (Barrier Attenuation)	260.0	0.0
Raw (Distance + Barrier)		47.6
30 Minute Hourly Adjustment		**44.6**

Friday, July 18, 2014

STATIONARY SOURCE NOISE PREDICTION MODEL (RFHDNS)

Source: Shopping Cart Carousel
Observer Location: R11

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	528.0 feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier:	528.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet		
Noise Height:	3.0 feet		
Observer Height (Above Pad):	5.0 feet		
		Barrier Breaks Line of Sight:	No
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation:	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	72.9
Distance Attenuation	528.0	-40.5
Shielding (Barrier Attenuation)	528.0	0.0
Raw (Distance + Barrier)		32.4
20 Minute Hourly Adjustment		**27.6**

Friday, July 18, 2014

STATIONARY SOURCE NOISE PREDICTION MODEL (ZEL-0205)

Source: Parking Lot Activity
Observer Location: R11

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	517.0 feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier	517.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet		
Noise Height:	4.0 feet		
Observer Height (Above Pad).	5.0 feet	*Barrier Breaks Line of Sight:*	No
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	5.0	60.1
Distance Attenuation	517.0	-40.3
Shielding (Barrier Attenuation)	517.0	0.0
Raw (Distance + Barrier)		19.8
60 Minute Hourly Adjustment		**19.8**

Friday, July 18, 2014

STATIONARY SOURCE NOISE PREDICTION MODEL (ZEL-0205)

Source: Car Wash
Observer Location: R11

Project Name: Walmart Moreno Valley
Job Number: 8870
Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer	1,227.0 feet	***Barrier Height:***	**0.0 feet**
Noise Distance to Barrier	1,227.0 feet	*Barrier Type (0-Wall, 1-Berm):*	0.0
Barrier Distance to Observer:	0.0 feet		
Noise Height:	9.0 feet		
Observer Height (Above Pad).	5.0 feet	*Barrier Breaks Line of Sight:*	No
Observer Elevation:	0.0 feet	*Wall Located at Noise Source Elevation.*	No
Noise Source Elevation.	0.0 feet		

Drop Off Coefficient: 20.0 (20 = 6 dBA per doubling of distance, 15 = 4.5 dBA per doubling of distance)

NOISE MODEL PROJECTIONS

Noise Level	*Distance (feet)*	*Leq*
Reference (Sample)	10.0	76.5
Distance Attenuation	1,227.0	-41.8
Shielding (Barrier Attenuation)	1,227.0	0.0
Raw (Distance + Barrier)		34.7
30 Minute Hourly Adjustment		**31.7**

Friday, July 18, 2014

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APPENDIX 10.1:

RCNM EQUIPMENT DATABASE

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U.S. Department
of Transportation

**Federal Highway
Administration**

FHWA
Roadway Construction Noise Model
User's Guide

FHWA-HEP-05-054
DOT-VNTSC-FHWA-05-01

Final Report
January 2006

Prepared for
U.S. Department of Transportation
Federal Highway Administration
Office of Natural and Human Environment
Washington, DC 20590

Prepared by
U.S. Department of Transportation
Research and Innovative Technology Administration
John A. Volpe National Transportation Systems Center
Acoustics Facility
Cambridge, MA 02142

Table 1. CA/T equipment noise emissions and acoustical usage factors database.

CA/T Noise Emission Reference Levels and Usage Factors					
filename: EQUIPLST.xls					
revised: 7/26/05		Acoustical	Spec 721.560	Actual Measured	No. of Actual
	Impact	Use Factor	Lmax @ 50ft	Lmax @ 50ft	Data Samples
Equipment Description	Device ?	(%)	(dBA, slow)	(dBA, slow)	(Count)
				(samples averaged)	
All Other Equipment > 5 HP	No	50	85	-- N/A --	0
Auger Drill Rig	No	20	85	84	36
Backhoe	No	40	80	78	372
Bar Bender	No	20	80	-- N/A --	0
Blasting	Yes	-- N/A --	94	-- N/A --	0
Boring Jack Power Unit	No	50	80	83	1
Chain Saw	No	20	85	84	46
Clam Shovel (dropping)	Yes	20	93	87	4
Compactor (ground)	No	20	80	83	57
Compressor (air)	No	40	80	78	18
Concrete Batch Plant	No	15	83	-- N/A --	0
Concrete Mixer Truck	No	40	85	79	40
Concrete Pump Truck	No	20	82	81	30
Concrete Saw	No	20	90	90	55
Crane	No	16	85	81	405
Dozer	No	40	85	82	55
Drill Rig Truck	No	20	84	79	22
Drum Mixer	No	50	80	80	1
Dump Truck	No	40	84	76	31
Excavator	No	40	85	81	170
Flat Bed Truck	No	40	84	74	4
Front End Loader	No	40	80	79	96
Generator	No	50	82	81	19
Generator (<25KVA, VMS signs)	No	50	70	73	74
Gradall	No	40	85	83	70
Grader	No	40	85	-- N/A --	0
Grapple (on backhoe)	No	40	85	87	1
Horizontal Boring Hydr. Jack	No	25	80	82	6
Hydra Break Ram	Yes	10	90	-- N/A --	0
Impact Pile Driver	Yes	20	95	101	11
Jackhammer	Yes	20	85	89	133
Man Lift	No	20	85	75	23
Mounted Impact Hammer (hoe ram)	Yes	20	90	90	212
Pavement Scarafier	No	20	85	90	2
Paver	No	50	85	77	9
Pickup Truck	No	40	55	75	1
Pneumatic Tools	No	50	85	85	90
Pumps	No	50	77	81	17
Refrigerator Unit	No	100	82	73	3
Rivit Buster/chipping gun	Yes	20	85	79	19
Rock Drill	No	20	85	81	3
Roller	No	20	85	80	16
Sand Blasting (Single Nozzle)	No	20	85	96	9
Scraper	No	40	85	84	12
Shears (on backhoe)	No	40	85	96	5
Slurry Plant	No	100	78	78	1
Slurry Trenching Machine	No	50	82	80	75
Soil Mix Drill Rig	No	50	80	-- N/A --	0
Tractor	No	40	84	-- N/A --	0
Vacuum Excavator (Vac-truck)	No	40	85	85	149
Vacuum Street Sweeper	No	10	80	82	19
Ventilation Fan	No	100	85	79	13
Vibrating Hopper	No	50	85	87	1
Vibratory Concrete Mixer	No	20	80	80	1
Vibratory Pile Driver	No	20	95	101	44
Warning Horn	No	5	85	83	12
Welder / Torch	No	40	73	74	5