June 2020 | Draft Environmental Impact Report
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JACKSON RANCH SPECIFIC PLAN

Kings County

Volume II – Appendices

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Appendix A Initial Study/Notice of Preparation (NOP)

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August 2019 | Initial Study

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Abbreviations and Acronyms

AAQS	ambient air quality standards
AB	Assembly Bill
ACM	asbestos-containing materials
ADT	average daily traffic
amsl	above mean sea level
AQMP	air quality management plan
AST	aboveground storage tank
BAU	business as usual
bgs	below ground surface
BMP	best management practices
CAA	Clean Air Act
CAFE	corporate average fuel economy
CalARP	California Accidental Release Prevention Program
CalEMA	California Emergency Management Agency
Cal/EPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
CALGreen	California Green Building Standards Code
Cal/OSHA	California Occupational Safety and Health Administration
CalRecycle	California Department of Resources, Recycling, and Recovery
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDE	California Department of Education
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
cfs	cubic feet per second
CGS	California Geologic Survey
CMP	congestion management program
CNDDB	California Natural Diversity Database
CNEL	community noise equivalent level

Abbreviations and Acronyms

CO	carbon monoxide
CO_2e	carbon dioxide equivalent
Corps	US Army Corps of Engineers
CSO	combined sewer overflows
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
EIR	environmental impact report
EPA	United States Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GHG	greenhouse gases
GWP	global warming potential
HCM	Highway Capacity Manual
HQTA	high quality transit area
HVAC	heating, ventilating, and air conditioning system
IPCC	Intergovernmental Panel on Climate Change
L_{dn}	day-night noise level
L_{eq}	equivalent continuous noise level
LBP	lead-based paint
LCFS	low-carbon fuel standard
LOS	level of service
LST	localized significance thresholds
M_W	moment magnitude
MCL	maximum contaminant level
MEP	maximum extent practicable
mgd	million gallons per day
MMT	million metric tons

Abbreviations and Acronyms

MPO	metropolitan planning organization
MT	metric ton
NAHC	Native American Heritage Commission
NO_X	nitrogen oxides
NPDES	National Pollution Discharge Elimination System
O_3	ozone
OES	California Office of Emergency Services
PM	particulate matter
POTW	publicly owned treatment works
ppm	parts per million
PPV	peak particle velocity
RCRA	Resource Conservation and Recovery Act
REC	recognized environmental condition
RMP	risk management plan
RMS	root mean square
RPS	renewable portfolio standard
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SIP	state implementation plan
SLM	sound level meter
SO_X	sulfur oxides
SQMP	stormwater quality management plan
SRA	source receptor area [or state responsibility area]
SUSMP	standard urban stormwater mitigation plan
SWP	State Water Project
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminants
TNM	transportation noise model
tpd	tons per day
TRI	toxic release inventory
TTCP	traditional tribal cultural places
USFWS	United States Fish and Wildlife Service

Abbreviations and Acronyms

USGS	United States Geological Survey
UST	underground storage tank
UWMP	urban water management plan
V/C	volume-to-capacity ratio
VdB	velocity decibels
VHFHSZ	very high fire hazard severity zone
VMT	vehicle miles traveled
VOC	volatile organic compound
WQMP	water quality management plan
WSA	water supply assessment

1. Introduction

The proposed project consists of the development and implementation of a specific plan for approximately 425 acres along Interstate 5 at the existing Utica Avenue off-ramp in unincorporated Kings County. The Jackson Ranch Specific Plan (Jackson Ranch or Specific Plan) would serve as an innovative service and commercial center that will encourage economic growth while preserving the agricultural heritage of the region. As the halfway point between San Francisco and Los Angeles, Jackson Ranch offers a key visible rest stop to the high volume of motorists who pass by annually. Upon completion, Jackson Ranch would be the only stop to offer food, lodging, a truck stop, and service stations within a 31-mile stretch of Interstate 5, stretching from Kettleman City to the north to State Route 46 to the south. A total of just under 2.5 million square feet of commercial space is planned for approximately 142 acres of the area covered by the Specific Plan. Approximately 207 acres is to be designated for agricultural use, and an additional 56 acres is to be designated as agricultural use with an overlay for a potential future airstrip. Approximately 15 acres are designated for public streets, and 5 acres has been set aside for public utility uses, including a wastewater treatment plant.

In compliance with the California Environmental Quality Act (CEQA), Kings County, as the lead agency, is preparing the environmental documentation for the Specific Plan to determine if approval of the discretionary actions requested and subsequent development would have a significant impact on the environment. As defined by Section 15063 of the CEQA Guidelines, an Initial Study is prepared primarily to provide the lead agency with information to use as the basis for determining whether an environmental impact report (EIR), negative declaration, or mitigated negative declaration would provide the necessary environmental documentation for the Specific Plan. This Initial Study supports the preparation of an EIR for the Specific Plan.

1.1 PROJECT LOCATION

Figures 1, *Regional Location*, and 2, *Local Vicinity*, show the location of the Plan Area within the regional and local contexts of Kings County (also referenced as the County herein). Jackson Ranch is located in an unincorporated area of the County, consisting of 425 acres adjacent to and west of Interstate 5 (I-5) at the Utica Avenue off-ramp. The area covered by the Specific Plan (Plan Area) is approximately 70 miles northwest of the City of Bakersfield and 70 miles southwest of the City of Fresno. The nearest urbanized area to the Plan Area is Kettleman City, an unincorporated community of the County approximately 6 miles to the northwest (see Figure 1). As shown in Figure 2, Utica Avenue forms the northern Plan Area boundary, the southbound I-5 on-ramp forms the northeastern boundary, and I-5 forms the eastern boundary. A portion of the western Plan Area boundary abuts the California Aqueduct, and 25th Avenue bisects it from north to south (see Figure 2). Agricultural uses are located along the northern, western, and southern edges, as shown in Figure 3, *Aerial Photograph*.

The Plan Area is accessed from I-5 via Utica Avenue, a two-lane Local Street with a 90-foot right-of-way. Outside of the vicinity of the Plan Area, Utica Avenue is designated by the Kings County Regional Transportation Plan as a Major Collector from the east side of I-5 to 6th Avenue, and for the portion west of the Plan Area where State Routes 33 and 41 are connected.

1.2 ENVIRONMENTAL SETTING

1.2.1 Existing Land Use

Onsite land uses primarily consist of active and fallow agricultural land or rangeland, as shown in Figure 3, *Aerial Photograph*. The agricultural production consists mainly of irrigated crops such as almonds pistachios, and stone fruits (apricots and plums); dry land grazing also occurs onsite. The Plan Area has historically been used for farming, and portions presently contain an orchard of almond trees near the end of their productive life expectancy. Other crops include pistachios, apricots, and plums. A portion of the Plan Area consists of disked lands formerly planted as orchards. Power lines on wooden poles line the northern site boundary, abutting Utica Avenue; they also traverse the entire stretch of the central portion of the Plan Area from the northern to southern boundary.

1.2.2 Surrounding Land Use

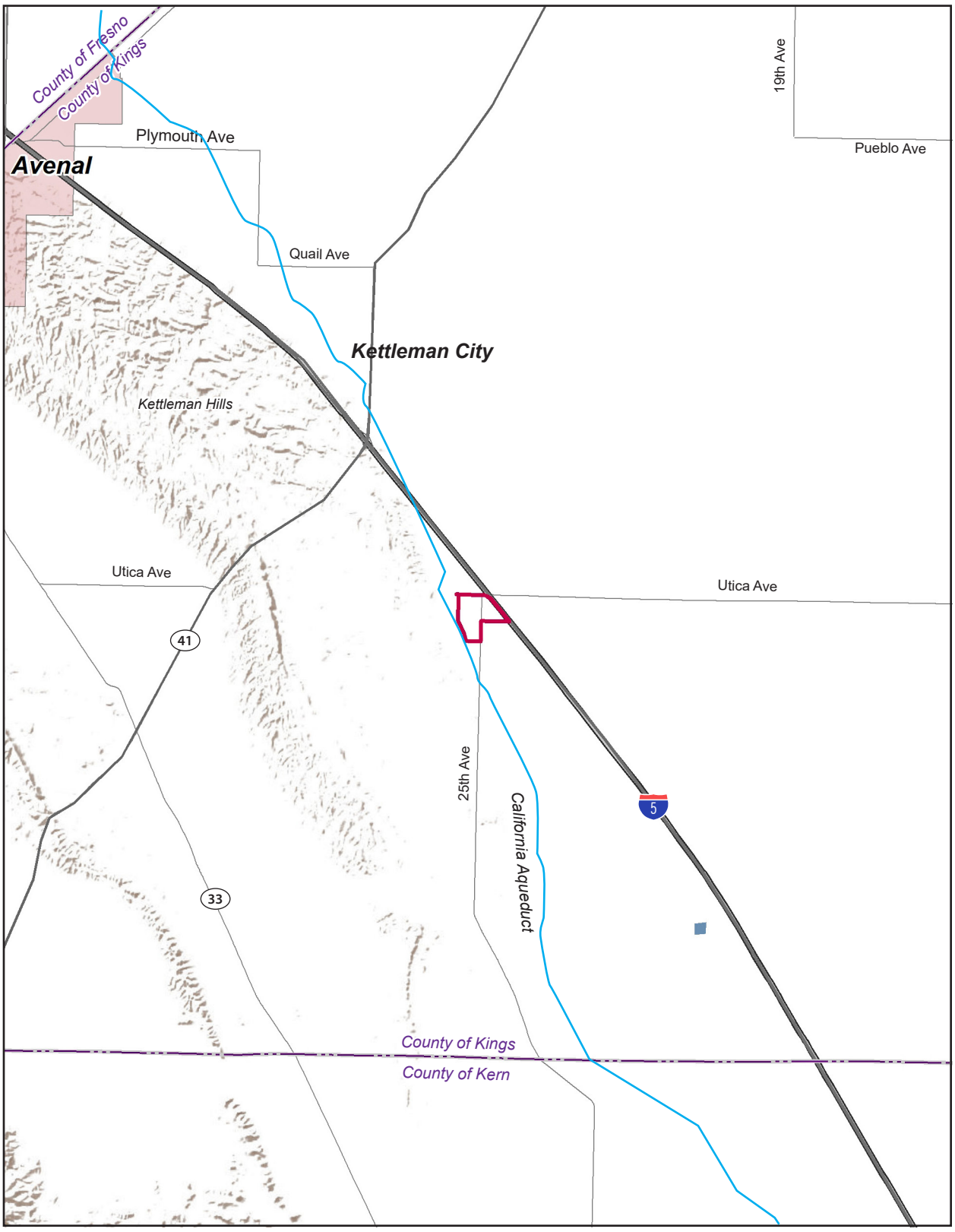
Surrounding land uses primarily consist of active and fallow agricultural land or grazing lands (see Figure 3). Major infrastructure surrounding the Plan Area includes I-5 to the east and the California Aqueduct to the west. Beyond the aqueduct are the Kettleman Hills.

1.3 EXISTING ZONING AND GENERAL PLAN

The County-designated zoning district of the Plan Area is General Agriculture-40 District (AG-40). This district is intended primarily for application to rural areas of the County, which are generally characterized by extensive and intensive agricultural uses of land.

The current Kings County General Plan was adopted on January 26, 2010, and designates all parts of the Plan Area under General Agriculture-40 Acre. This designation is applied to rural areas of the County; it allows intensive agricultural uses that by their nature may be incompatible with urban uses.

Figure 1 - Regional Location
1. Introduction



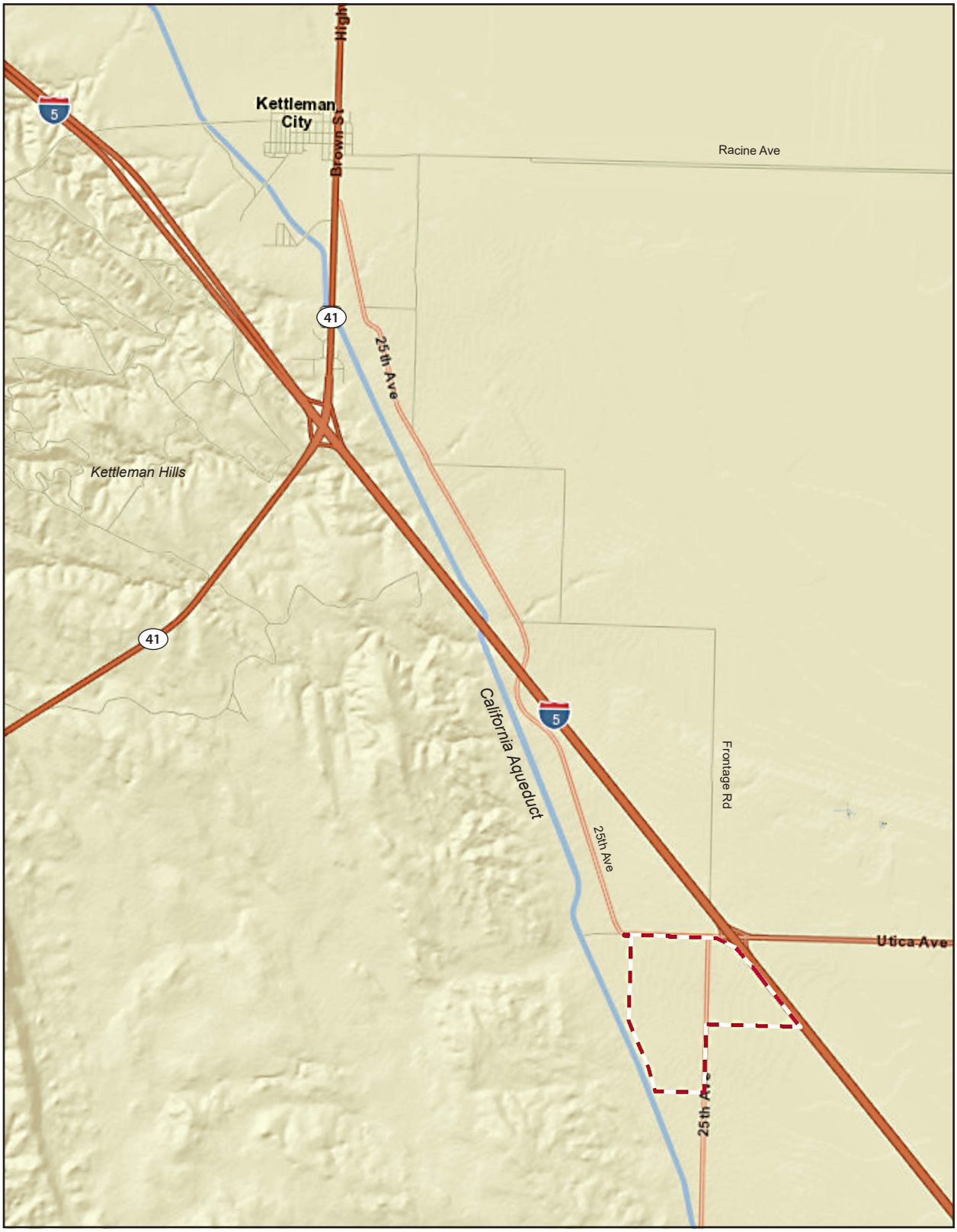
Source: ESRI, 2019

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Figure 2 - Local Vicinity
1. Introduction



Plan Area Boundary

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Scale (Miles)

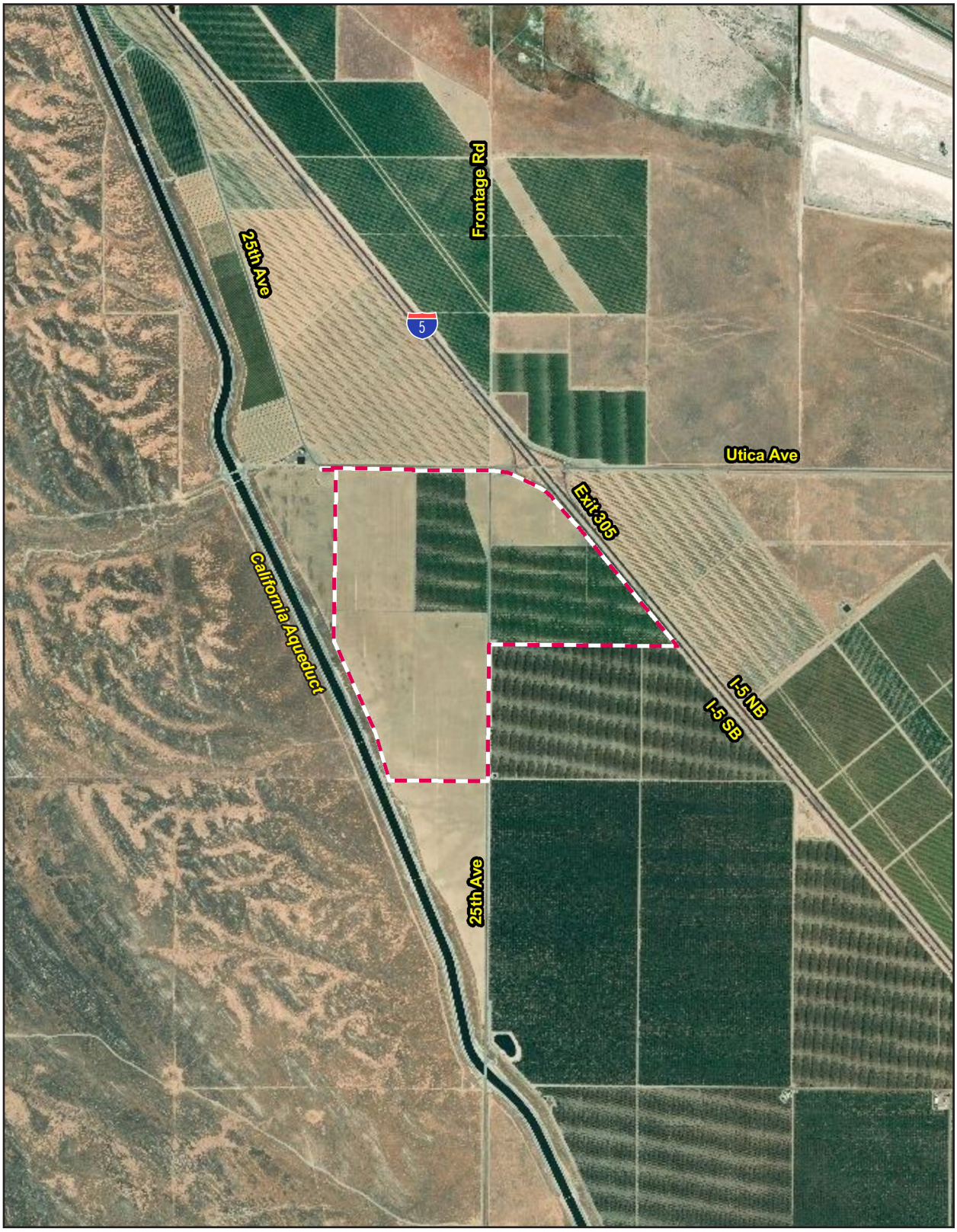
Source: ESRI, 2019

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Figure 3 - Aerial Photograph
1. Introduction



Plan Area Boundary

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Scale (Feet)

Source: ESRI, 2019

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1. Introduction

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Table 1 presents a breakdown of current Kings County General Plan land use designation in the County. As shown in this table, the County is currently divided into six land use designations, and the predominant land use is agriculture, comprising approximately 90 percent of the land in the County.

Table 1 Current General Plan Land Use Designations

General Plan Land Use Designation	Compatible Zoning District Abbreviation	Acres[1]	Percentage of Total Land Use
Agriculture	A	738,623.04	90.18%
Limited Agricultural	AL-10	22756.74	
General Agriculture – 20 Acre	AG-20	149,333.62	
General Agriculture – 40 Acre	AG-40	522,264.85	
Exclusive Agriculture – 40 Acre	AX	44,267.73	
Residential	R	3,073.10	0.36%
Very Low Density	RRE/RRA	1,073.99	
Low Density	R-1-20	324.19	
Low Medium Density	R-1-12	163.12	
Medium Density	R-1-8 or R-1-6	667.5	
Medium High Density	RM-3	226.39	
High Density	RM-2	83.31	
Very High Density	RM-1.5	15.18	
Reserve Low Medium Density	R(R)	53.13	
Reserve Medium Density	R(R)	278.82	
Reserve Medium High Density	R(R)	33.95	
Mixed Use	MU	158.72	0.02%
Downtown Mixed Use	MU-D	38.27	
Mixed Use	MU	86.23	
Reserve Mixed Use	MU(R)	34.22	
Commercial	C	813.36	0.10%
Neighborhood Commercial	CN	14.59	
Rural Commercial	CR	133.83	
Service Commercial	CS	274.59	
Transportation Commercial	CT, CH	210.60	
Multiple Commercial	CS, CH	135.74	
Reserve Multiple Commercial	C(R)	44.01	
Industrial	I	1,540.88	0.31%
Light Industrial	IL	507.54	
Heavy Industrial	IH	2,033.34	
Planned Industrial	IP	0.00	
Other Uses	527	73,940.53	9.03%
Overlay Districts	DD, NS, AC, OS, NRC, FH, RM, SD, CR	72,798.75	
Public	PF	1,141.78	
Total	—	818,996.11	100%

[1] Source: 2010 Kings County General Plan.

Approximately 45 percent of the Plan Area is designated by the California Department of Conservation as "Grazing Land," and approximately 50 percent is designated as "Prime Farmland." A small area in the southwestern portion of the Plan Area adjacent to the California Aqueduct is designated as "Prime Farmland" by the County Assessor's office. The "Prime Farmland" designation means that active farming has occurred within the past four years and indicates that the Plan Area is able to sustain long-term agricultural production because it offers the soil quality, growing season, and water supply to produce sustained high yields. The Plan Area is not currently enrolled in a Williamson Act contract.

1.4 PROJECT DESCRIPTION

1.4.1 Proposed Land Use

The proposed project consists of development and implementation of the Jackson Ranch Specific Plan (Jackson Ranch or Specific Plan), which covers approximately 425 acres along I-5 at the Utica Avenue off-ramp in unincorporated County (see Figure 4, *Specific Plan Land Use Plan*). Jackson Ranch would serve as an innovative service and commercial center that will encourage economic growth while preserving the agricultural heritage of the region. As the halfway point between San Francisco and Los Angeles, Jackson Ranch offers a visible rest stop to the high volume of motorists who pass by annually. Upon completion, Jackson Ranch would be the only stop to offer food, lodging, a truck stop, and service stations within a 31-mile stretch of I-5, stretching from Kettleman City to the north to State Route 46 to the south.

A General Plan Amendment to change the General Plan land use designation of the Plan Area from General Agriculture-40 Acre (current General Plan land use designation) to Jackson Ranch Specific Plan is required to implement the Specific Plan. Under the Specific Plan, approximately 175 acres, or 41 percent of the Plan Area, would be changed from General Agriculture-40 Acre to Innovation Center (IC-JR), Commercial Thoroughfare (CT-JR) and Public (P-JR), which would allow arrange of commercial, light industrial and public facility uses. Also, approximately 249 acres, or 59 percent of the Plan Area, is proposed to be changed from General Agriculture-40 Acre to Specialty Agriculture (A-JR). Approximately 56 acres of the 249 acres to be designated Specialty Agriculture would include an Air Strip Overlay, which would allow for the development of a potential future private air strip in the Plan Area. If the Air Strip Overlay is implemented in the future, additional CEQA review would be required to address the potential environmental impacts of developing an air strip. It is anticipated that active agriculture will continue in the Plan Area during and after the development of Jackson Ranch (see Figure 4). Proposed land use designations under the Specific Plan are identified in Table 2.

Table 2 Jackson Ranch Specific Plan Land Use Designations

Designation	Description
Innovation Center (IC-JR)	Provides a prime location for inventive new and expanding businesses. This designation allows for a range of uses including light industrial, research and development, medical offices, hospitals, office, hospitality, retail, and entertainment.
Commercial Thoroughfare (CT-JR)	Provides a safe stop for existing travelers along Interstate 5. This area is envisioned as a sophisticated transportation plaza, delivering food, lodging, amenities, and entertainment to both professional and leisure travelers along Interstate 5.
Public (P-JR)	Accommodates a public water and wastewater treatment facility.
Specialty Agriculture (A-JR)	Provides a buffer between more intensive agricultural uses of the General Agriculture district, and urban areas. This area is meant to be compatible with nonagricultural uses. The minimum parcel size is 10 acres.
Specialty Agriculture with Air Strip Overlay (A-JR) [1]	
Streets	Consists of Arterial, Collector and Local Street classifications.

[1] The proposed air strip overlay is a potential future use and is not a part of the project scope at this time. If the air strip overlay is implemented in the future, additional CEQA review would be required to address the potential environmental impacts of developing an air strip.

A statistical summary of the Specific Plan's land use designations is provided in Table 3. As shown in the table, a total of just under 2.5 million square feet of commercial space is planned for Jackson Ranch.

Table 3 Jackson Ranch Specific Plan Land Use Statistical Summary

Land Use Designation	Acres	FAR	Maximum Building Sq. Ft.
Innovation Center (IC-JR)	119.1	0.45	2,334,597
Commercial Thoroughfare (CT-JR)	23.8	0.25	161,245
Public (P-JR)	5.0	—	—
Specialty Agriculture (A-JR)	206.9	—	—
Specialty Agriculture with Air Strip Overlay (A-JR)	55.5	—	—
Streets	14.6	—	—
Total	424.9	—	2,495,842

Note: FAR = floor area ratio; Sq. Ft. = square feet

Implementation of the Specific Plan would also require an amendment to the Kings County Development Code and Zoning District Map. Specifically, the Development Code Amendment is needed to add the Jackson Ranch Specific Plan by reference and the Zoning District Map Amendment is needed to change the zoning district from AG-40 to Jackson Ranch Specific Plan. The Development Code Amendment would state that the regulating code contained in the Specific Plan would serve as the regulatory plan (zoning, development, and design standards and guidelines) for all development projects in the Plan area.

The California Government Code (Title 7, Division 1, Chapter 3, Article 8, Sections 65450–65457 [Specific Plans]) provides authority for a city/county to adopt a specific plan by ordinance (as a regulatory plan) or resolution (as a policy plan). When a specific plan is adopted by ordinance, the specific plan effectively replaces portions or all of the current zoning regulations for specified parcels and becomes an independent set of zoning regulations that provide specific direction to the type and intensity of uses permitted or define other

types of design and permitting criteria. The Specific Plan would be adopted by the Kings County Board of Supervisors as ordinance and function as the regulatory plan that serves as the implementing zoning for the Plan Area, thereby ensuring the orderly and systematic implementation of the Kings County General Plan.

1.4.2 Project Phasing

As detailed in the Specific Plan, Jackson Ranch is anticipated to be developed in four phases (described below). However, for purposes of this Initial Study and subsequent preparation of the EIR (including accompanying technical studies for air quality, greenhouse gas emissions, noise, and traffic), the impact analysis only looks at two development phases: the first phase (Phase One described below) consists of the Plan Area designated as Commercial Thoroughfare in Figure 4, *Specific Plan Land Use Plan*, and the second phase (Phases Two through Four described below) consists of the remainder of the Plan Area. A detailed site plan is being developed at this time for the first phase; therefore, a site-specific analysis will be undertaken for this phase in the EIR and the detailed site plan will form the basis for this level of analysis. For the second phase, a broader programmatic-level analysis will be undertaken as no detailed site plan(s) will be developed at this time for this phase.

Phase One

Phase one, encompassing approximately 25 acres, is anticipated to provide approximately 150,000 square feet of travel-related commercial space. This phase will fill a need for travel-oriented services geared to meet the needs of existing travelers along I-5. Proposed uses include a 10-acre truck stop, potentially offering a restaurant, service station, and short term resting place for large transport vehicles. The remaining 15 acres have been divided into smaller parcels to easily accommodate fast food and sit down restaurants, motels, service stations, and an open area for community events such as a Farmer's Market.

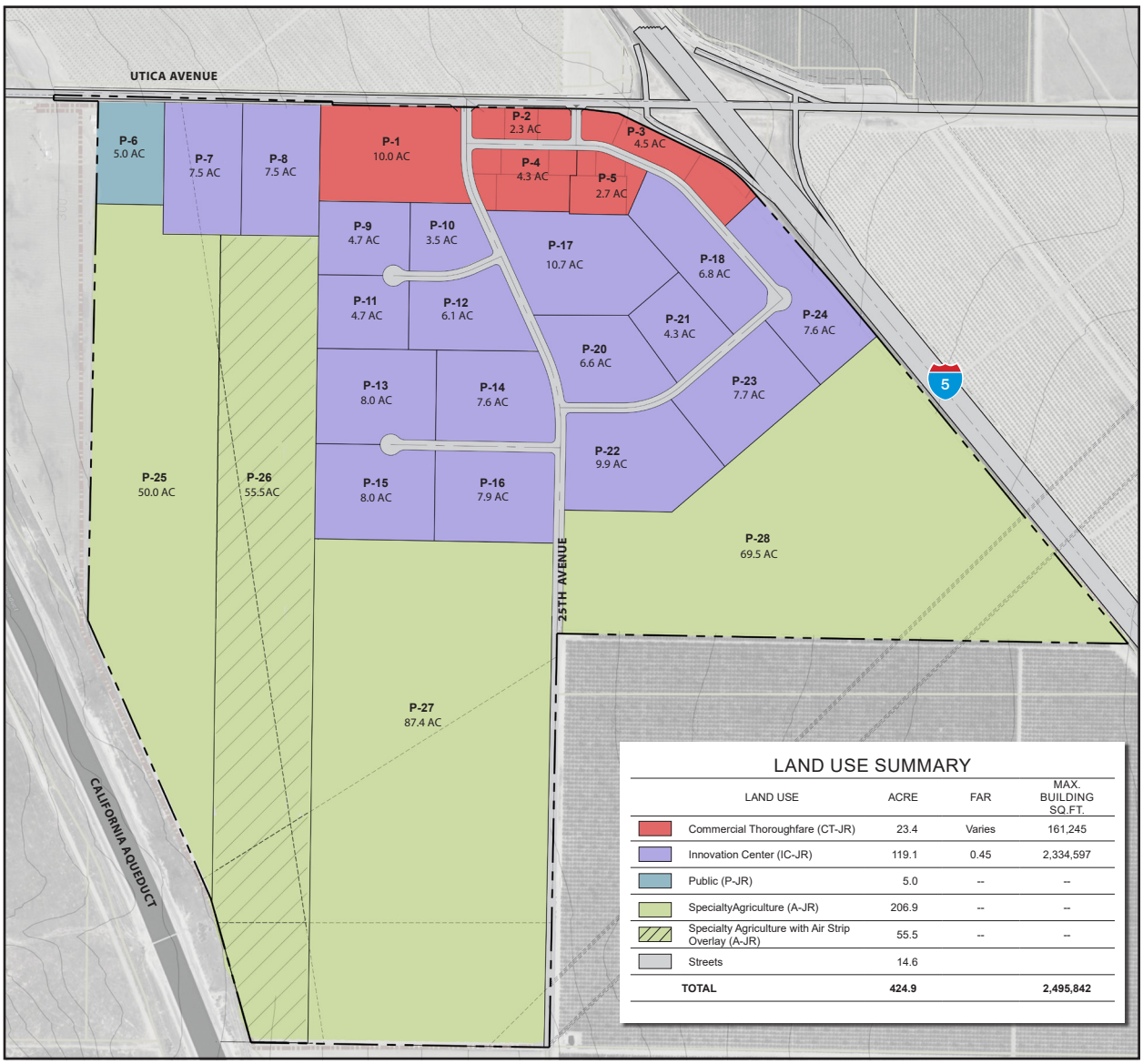
The primary infrastructure (roads and accompanying utilities) would be constructed prior to or at the same time as Phase One. Major access will be provided via Utica Avenue and the new alignment of 25th Avenue. The proposed public water and wastewater treatment facility in the Public designated area (see Figure 4) would also be completed in Phase One.

Phase Two

Phase two consists of approximately 30 acres and 588,000 square feet of commercial space in the Innovation Center designated area of the Specific Plan (see Figure 4). This designation allows for a range of uses, including light industrial, research and development, medical offices, hospitals, office, hospitality, retail, and entertainment. The primary access to Phase Two will be directly from Utica Avenue and interior local streets connected to 25th Avenue. Sidewalk connections would link Phase Two to the Phase One travel plaza area, allowing pedestrian access to retail areas.

Figure 4 - Specific Plan Land Use Plan

1. Introduction



Plan Area Boundary

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Scale (Feet)

Source: ESRI, 2019

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Phases Three and Four

Combined, Phases Three and Four consists of approximately 89 acres and 1,755,000 square feet of commercial space in the Innovation Center designated area of the Specific Plan (see Figure 4). Phase Three consists of approximately 50 acres and 990,000 square feet of commercial space. Phase 4 consists of approximately 39 acres and 765,000 square feet of commercial space. The Innovation Center designation allows for a range of uses, including light industrial, research and development, medical offices, hospitals, office, hospitality, retail, and entertainment. Access to Phases Three and Four would primarily be from local streets connected to 25th Avenue.

1.4.3 Infrastructure Plan

Jackson Ranch includes on- and offsite infrastructure plans that are necessary to accommodate development that would be accommodated by the Specific Plan, including plans for mobility, stormwater management, potable water, wastewater management, utilities (electricity, natural gas, and telecommunication services), and solid waste disposal.

Mobility Plan

The mobility plan for Jackson Ranch addresses all aspects of the public realm within street rights-of-way, including landscaping, sidewalks, and travel lanes. The Mobility Plan includes three street classifications—arterial streets, collector streets, and local streets—that include 15 acres of the Plan Area. Following is a description of each classification:

- **Arterial Street.** Utica Avenue serves as an arterial street, connecting the Plan Area to I-5. Utica Avenue includes four travel lanes within a 74-foot right-of-way. A 10-foot-wide landscape area and 5-foot-wide sidewalk are included in the southern parkway, adjacent to the project boundary. The northern parkway of this street is not included in the boundaries of the Plan Area.

- **Collector Street.** The collector street of the Plan Area is 25th Avenue, and a realignment is planned to create more stacking distance for vehicles traveling toward the Utica Avenue off-ramp. Within the developed area, a 62-foot right-of-way is proposed, including a 6-foot-wide, curb-adjacent landscape area and a 5-foot-wide sidewalk on both sides. Within the agricultural area, the 25th Avenue right-of-way remains at the existing width of 60 feet.

- **Local Streets.** Local streets provide access to individual planning areas. These streets feature a 56-foot right-of-way, with a 32-foot curb-to-curb distance. A 6-foot-wide parkway and 5-foot-wide sidewalk would be included on both sides.

Stormwater Management Plan

The stormwater management and collection system include on- and offsite watersheds, primate stormwater facilities, secondary stormwater facilities, BMP (best management practice) treatments. All stormwater, flood protection, and terminal discharge improvements necessary to accommodate the Specific Plan's development phases would be approved by Kettleman City Community Services District (KCCSD), Kings County Public

1. Introduction

Works, Kings County Flood Control, and any other state or federal Agency having jurisdiction over the improvements.

Potable Water Plan

Two alternatives are being studied for the provision of water to the Plan Area. The first alternative involves the installation of an onsite water treatment plant to treat the water supplied from the aqueduct to potable standards. A second alternative proposes a connection to the Kettleman Water Treatment Plant located five miles north of the Plan Area; the plant is owned and operate by KCCSD. The second alternative would require coordination with KCCSD. It would also require approval from the Local Agency Formation Commission of Kings County for any KCCSD boundary or service expansion that may be needed to serve the Specific Plan's potable water needs. The raw water supply for Jackson Ranch would be the State Water Project and Kern River Water Bank. The potential water demand will be assessed in the Water Supply Assessment to be prepared as a part of the EIR.

Wastewater Management Plan

Wastewater from Jackson Ranch would flow through the proposed gravity sewer system from the individual development sites to a proposed pump station in the northwestern portion of the Plan Area, within the 5 acres that make up the Public land use designation. From there, wastewater would be pumped approximately 2,000 feet through a force main to the proposed wastewater treatment plant (WWTP) in the northwestern portion of the Plan Area. A packaged extended aeration system is planned for treating the wastewater. This system involves sending the wastewater through an influent screen, equalization of flow, anoxic-aerobic treatment, clarification, and sludge storage.

The influent wastewater would enter the screening unit and exit the plant through the effluent weir of the clarifier. The effluent wastewater would be disposed to one of two of the proposed percolation ponds. Sludge would be periodically pumped from the sludge holding tank and hauled away by a septic hauling truck. An emergency wastewater storage pond would store influent wastewater in the event of a major malfunction at the WWTP.

Electric Service

Jackson Ranch is within the service area of Pacific Gas & Electric (PG&E) and would be served by the existing electrical transmission lines onsite and abutting the northern Plan Area boundary. New electrical transformers and switch stations would be located in key areas of the Plan Area to provide the necessary electric distribution infrastructure to serve Jackson Ranch.

Natural Gas

As with electricity, PG&E would provide natural gas service to the Plan Area through new regulator stations onsite that would connect to existing transmission pipelines offsite. Gas regulator stations would be located in areas that allow for ease of maintenance by utility crews. New subgrade gas mains would be located within roadways and easements as appropriate and typical for new development.

Communication Facilities

A telecommunications network serving high speed data, voice, and video services would be provided for Jackson Ranch. This state-of-the art system would work with Incumbent Local Exchange Carriers and Competitive Local Exchange Carriers to provide Jackson Ranch with an advanced communication network. Local communications transmission and distribution facilities may be located in any land use designation of the Specific Plan, and where feasible, lines would be located in underground easements or rights-of-way that permit access for maintenance with minimal disruption of surrounding properties.

Solid Waste

Solid waste generated in the Plan Area would be collected by Kings Waste and Recycling Authority (KWRA) and transferred to KWRA's Material Recovery Facility and Transfer Station at 7803 Hanford Armona Road in the City of Hanford. Some waste would be recycled at KWRA's facility prior to the remainder of the waste being disposed of at a state-licensed landfill in the region. Hazardous waste would be disposed of at Kettleman Hills Hazardous Waste Facility approximately four miles northwest of the Plan Area; the facility is managed and operated by Waste Management. Green waste would be disposed at the Kochergen Farms Composting Facility; the facility is managed and operated by Kochergen Farms Composting, Inc.

1.5 COUNTY ACTION REQUESTED

1.5.1 Lead Agency

To implement the Specific Plan, the following discretionary actions and approvals are required by the County's approval body:

- Adoption of a General Plan Amendment: General Plan Land Use Designation Change from General Agriculture-40 Acre to Jackson Ranch Specific Plan
- Adoption of a Development Code and Zoning District Map Amendment: Development Code Amendment to add the Jackson Ranch Specific Plan by reference and Zone District Map Amendment to change the zoning district from AG-40 to Jackson Ranch Specific Plan
- Adoption of the Jackson Ranch Specific Plan
- Certification of the Environmental Impact Report

1.5.2 Responsible Agency

A responsible agency is a public agency other than the lead agency that has responsibility for carrying out or approving a project (CEQA Guidelines § 15381 and Public Resources Code § 21069). As part of the Specific Plan, the following approvals from responsible agencies are required:

1. Introduction

- **California Department of Transportation.** Coordination and approval for necessary roadway improvements to Caltrans facilities. Issuance of encroachment permits for any improvements within Caltrans right-of-way.

- **Local Agency Formation Commission of Kings County.** Approval of any Kettleman City Community Services District boundary or service expansion that may be needed to serve the Specific Plan's potable water needs.

2. Environmental Checklist

2.1 PROJECT INFORMATION

1. **Project Title:** Jackson Ranch Specific Plan

2. **Lead Agency Name and Address**:
   Kings County Community Development Agency
   1400 West Lacey Boulevard, Building #6
   Hanford, CA 93230

3. **Contact Person and Phone Number:**
   Chuck Kinney, Deputy Director of Planning
   559.852.2670

4. **Project Location:** The Specific Plan is in an unincorporated area of Kings County, adjacent to Interstate 5 (I-5) at the Utica Avenue off-ramp. The Plan Area is approximately 70 miles northwest of the City of Bakersfield and 70 miles southwest of the City of Fresno. The southbound I-5 on-ramp forms the northeast boundary of the site, and the I-5 right-of way is adjacent to the eastern boundary. A portion of the southwestern boundary is adjacent to the California Aqueduct, and 25th Avenue bisects the Plan Area from north to south.

5. **Project Sponsor's Name and Address:**
   Utica J.L.J. LLC
   6 Rue Chantilly
   Newport Beach, CA 92660

6. **General Plan Designation:** General Agriculture-40 Acre

7. **Zoning:** General Agricultural-40 District (AG-40)

8. **Description of Project:** Consisting of approximately 425 acres along I-5 at the Utica Avenue off-ramp, Jackson Ranch is envisioned as an innovative service and commercial center that will encourage economic growth while honoring the agricultural heritage of the region. A total of just under 2.5 million square feet of commercial space is planned for 142 acres of the Plan Area. Approximately 207 acres is proposed to be designated for agriculture. Additionally, approximately 56 acres are designated for agricultural use with an air strip overlay, and 15 acres are designated for public streets. A 5-acre area has been set aside for public utility uses, including a wastewater treatment plant.

2. Environmental Checklist

9. Surrounding Land Uses and Setting: Surrounding land uses include agricultural land on all sides. Major infrastructure surrounding the Plan Area includes I-5 to the east and the California Aqueduct to the west.

10. Other Public Agencies Whose Approval Is Required (e.g., permits, financing approval, or participating agreement:

- California Department of Transportation
- Local Agency Formation Commission of Kings County

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

> Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21080.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.94 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.

Tribal consultation will be completed in accordance with Senate Bill 18 and Assumedly Bill 52.

2.2 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact," as indicated by the checklist on the following pages.

☐ Aesthetics	☒ Agriculture / Forestry Resources	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Energy
☒ Geology/Soils	☒ Greenhouse Gas Emissions	☐ Hazards and Hazardous Materials
☒ Hydrology/Water Quality	☒ Land Use / Planning	☐ Mineral Resources
☒ Noise	☐ Population / Housing	☒ Public Services
☐ Recreation	☒ Transportation	☒ Tribal Cultural Resources
☒ Utilities / Service Systems	☐ Wildfire	☒ Mandatory Findings of Significance

2.3 DETERMINATION (TO BE COMPLETED BY THE LEAD AGENCY)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☒ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Chuck Kinney — *Signature*

8-23-19 — *Date*

Chuck Kinney, Deputy Director - Planning — *Printed Name*

Kings County Community Development Agency — *For*

2.4 EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors, as well as general standards (e.g., the project would not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level.

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

    a) **Earlier Analyses Used.** Identify and state where they are available for review.

    b) I**mpacts Adequately Addressed.** Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

    c) **Mitigation Measures.** For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated. A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9. The explanation of each issue should identify:

   a) the significance criteria or threshold, if any, used to evaluate each question; and

   b) the mitigation measure identified, if any, to reduce the impact to less than significant.

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS. Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?			X	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c) In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?			X	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			X	
II. AGRICULTURE AND FORESTRY RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	X			
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?			X	
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X

2. Environmental Checklist

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?			X	
III. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	X			
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	X			
c) Expose sensitive receptors to substantial pollutant concentrations?	X			
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			X	
IV. BIOLOGICAL RESOURCES. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	X			
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?				X
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				X
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	X			
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X
V. CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?				X
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	X			
c) Disturb any human remains, including those interred outside of dedicated cemeteries?			X	

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. ENERGY. Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			X	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?			X	
VII. GEOLOGY AND SOILS. Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				X
ii) Strong seismic ground shaking?			X	
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?				X
b) Result in substantial soil erosion or the loss of topsoil?			X	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			X	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?			X	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				X
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	X			
VIII. GREENHOUSE GAS EMISSIONS. Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	X			
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	X			
IX. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			X	

2. Environmental Checklist

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X
e) 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, would the project result in a safety hazard or excessive noise for people residing or working in the project area?				X
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?				X
X. HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	X			
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	X			
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) result in a substantial erosion or siltation on- or off-site;	X			
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	X			
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	X			
iv) impede or redirect flood flows?				X
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				X
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	X			
XI. LAND USE AND PLANNING. Would the project:				
a) Physically divide an established community?				X
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	X			

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?				X
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X
XIII. NOISE. Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	X			
b) Generation of excessive groundborne vibration or groundborne noise levels?				X
c) For a project located within the vicinity of a private airstrip or 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, would the project expose people residing or working in the project area to excessive noise levels?				X
XIV. POPULATION AND HOUSING. Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?			X	
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X
XV. PUBLIC SERVICES. Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	X			
Police protection?	X			
Schools?				X
Parks?				X
Other public facilities?				X
XVI. RECREATION.				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			X	

2. Environmental Checklist

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X
XVII. TRANSPORTATION. Would the project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	X			
b) Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?	X			
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X
d) Result in inadequate emergency access?				X
XVIII. TRIBAL CULTURAL RESOURCES.				
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or				X
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	X			
XIX. UTILITIES AND SERVICE SYSTEMS. Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	X			
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	X			
c) Result in a determination by the waste water treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	X			

Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	X			
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?			X	
XX. WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?				X
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?				X
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?				X
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?				X
XXI. MANDATORY FINDINGS OF SIGNIFICANCE.				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	X			
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	X			
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	X			

2. Environmental Checklist

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3. Environmental Analysis

Section 2.4 provided a checklist of environmental impacts. This section provides an evaluation of the impact categories and questions contained in the checklist and identifies mitigation measures, if applicable. Except as provided in Public Resources Code Section 21099, would the project:

3.1 AESTHETICS

a) Have a substantial adverse effect on a scenic vista?

Less Than Significant Impact. For purposes of determining significance under CEQA, a scenic vista, is a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. In addition, some scenic vistas are officially designated by public agencies, or informally designated by tourist guides. A substantial adverse effect to such a scenic vista is one that degrades the view from such a designated view spot.

The Open Space Element of the Kings County General Plan addresses scenic resources in the County. The Open Space Element identifies the Kings River and Cross Creek in the northern half of the County as scenic natural assets, and the mountain terrain of the County's southwest edges (including Kettleman Hills) as providing a distinctive visual backdrop. The Coast Ranges in the southwestern portion of the County have also been identified as a scenic resource. The Plan Area is approximately 22 miles southwest of the portion of the Kings River that is designated as scenic, approximately 0.75 miles east from the toe of the Kettleman Hills eastern slope, and approximately 15.5 miles northeast of the Coast Ranges.

The Kettleman Hills to the west of the Plan Area are the closest scenic feature to the Plan Area; they provide a backdrop to this area of the County. However, limited views of these hills are provided from the Plan Area and surrounding roadways. For example, views of these hills afforded to motorists traveling on I-5 (which forms a portion of the eastern site boundary of the Planning Area) are limited to a small portion of the freeway that abuts the northeastern Plan Area boundary. Views of the hills afforded to I-5 motorists along the majority of the Plan Area frontage is very limited to none at all due to the dense planting of trees in the existing almond orchard onsite. Under the Specific Plan, the majority of the orchard (generally west of I-5 and east of 25th Avenue) would remain and continue to block views of the hills to I-5 motorists. Additionally, more complete public vistas of Kettleman Hills from the east-west-oriented Utica Avenue — which forms the northern Plan Area boundary — would not be affected as a result of development that would be accommodated by the Specific Plan. The Specific Plan would not introduce visual obstructions that would affect motorists or passerby traveling west on this roadway, as the Plan Area is on the south side of Utica Avenue and views of the hills from this roadway are to the west.

Additionally, the Plan Area and its surroundings primarily consist of active and fallow agricultural land or rangeland, as shown in Figure 3, *Aerial Photograph*. The Plan Area has historically been used for farming, and

portions of it presently contain an almond tree orchard. As stated in the Open Space Element of the Kings County General Plan, "In addition to their economic value and commodity production, the vast stretches of green field crops, orchards and vineyards are also valued for their scenic beauty and representation of Kings County's identity." As shown in Figure 4, just under half (207 acres) of the Plan Area would be designated as Specialty Agriculture, which allows for the continued operation of the almond tree orchard.

Furthermore, as shown in Figure 4, implementation of the Specific Plan would result in development in the Innovation Center and Commercial Thoroughfare designated areas of the Specific .Development of these areas would occur on active and fallow agricultural lands of the Plan Area (see Figured 3 and 4). The active agricultural land currently consists of an almond orchard, south of Utica Avenue and west of 25th Avenue. The almond orchard, which is visible to motorists traveling along Utica Avenue, would be removed to allow for development under the Specific Plan. However, its removal would not result in a significant impact on a scenic vista. As noted above, the orchard generally west of I-5 and east of 25th Avenue of would remain and continue to provide a scenic vista for motorists traveling along I-5.

Based on the preceding, impacts to scenic vistas as a result of the Specific Plan would be less than significant. Therefore, this impact will not be evaluated in the EIR.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. According to the California Scenic Highway Mapping System of the California Department of Transportation, the Plan Area is not on or near a major state-designated scenic highway (Caltrans 2019a). In fact, no designated scenic highways are located in the County. California State Route 41 (SR-41) is the nearest eligible state scenic highway, about 7.3 miles northwest of the Plan Area. Specifically, a portion of SR 41, from its intersection with SR 33 and proceeding to the San Luis Obispo County line, is designated by Caltrans as an eligible state scenic highway. However, due to the distance, little to no visibility of the Plan Are is afforded from SR-41. Additionally, there are no rock outcroppings or historic buildings in the Plan Area. Therefore, development that would be accommodated by the Specific Plan would not damage scenic resources within a state scenic highway. No impact would occur and this impact will not be evaluated in the EIR.

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

Less Than Significant Impact. The assessment of aesthetic impacts is subjective by nature. Aesthetics generally refers to the identification of visual resources and their quality, as well as an overall visual perception of the environment. A project is generally considered to have a significant aesthetic impact if it substantially changes the character or quality of the project site such that the site becomes visually incompatible with or visually unexpected in its surroundings.

Following is a discussion of the potential aesthetic and visual effects resulting from implementation of the Specific Plan's construction and operational phases.

Project Construction Phase

Future development that would be accommodated by the Specific Plan would result in construction activities that would temporarily change the visual character of the Plan Area and its surroundings. Construction activities would involve demolition, site clearing, grading, building, and site improvements. Construction staging areas, including earth stockpiling, storage of equipment and supplies, and related activities would contribute to a generally "disturbed site," which may be perceived by some as a visual impact.

However, these effects would be typical of any development site in the County that undergoes development or redevelopment. These activities may be unsightly during the site preparation and construction phases, but they are not considered significant because they are temporary. Construction fencing would be erected to help shield the construction areas and would also be temporary. Therefore, project-related construction activities would not have a significant effect on the existing visual character or quality of the Plan Area and its surroundings. Impacts would be less than significant and this impact will not be evaluated in the EIR.

Project Operation Phase

Land uses in the Plan Area and its surroundings primarily consist of active and fallow agricultural land or rangeland, as shown in Figure 3, *Aerial Photograph*. The Plan Area has historically been used for farming, and portions of the Plan Area presently contain an orchard of almond trees near the end of their productive life expectancy.

Implementation of the Specific Plan would transform the Plan Area from primarily agricultural land to an innovative service and commercial center. Under the Specific Plan, a total of just under 2.5 million square feet of commercial space is planned for approximately 142 acres of the Plan Area. Approximately 207 acres is to be designated for agricultural use, and an additional 56 acres is to be designated as agricultural use with an overlay for a potential future air strip. Approximately 15 acres are designated for public streets, and 5 acres has been set aside for public utility uses, including a wastewater treatment plant. Accordingly, development that would be accommodate by the Specific Plan has the potential to impact the overall visual character of the Plan Area and its surroundings. Implementation of the Specific Plan would create a noticeable environment with new development surrounded by agricultural land and rangeland. It would introduce many new features to the aesthetic landscape, including but not limited to large buildings, signage, a variety of lighting features, parking areas and other hardscapes, pedestrian facilities, loading bays, and vehicles and delivery trucks. The conversion of the Plan Area from its current agricultural condition to urban uses would alter the existing visual character of the Plan Area and its surroundings.

Sensitive viewers of the Plan Area would primarily be highway travelers along I-5. No residential viewers (which are considered sensitive a land use) would be impacted development that would be accommodated by the Specific Plan. The nearest residential community is Kettleman City approximately 5.5 miles to the northwest. Although there are no sensitive land uses in, adjacent to or within proximity of the Plan Area, development that would be accommodated by the Specific Plan would be visible to motorists traveling on I-5 and Utica Avenue to a much lesser extent, which form the eastern and northern Plan Area boundaries, respectively.

3. Environmental Analysis

To help soften the change in visual character to the Plan Area and surrounding vicinity, the Specific Plan provides development standards (e.g., building height limitations and setback requirements) and design guidelines (e.g., architectural, landscape, signage) that future development would be required to adhere to. The Specific Plan would ensure high quality and context-sensitive design within the Plan Area through implementation of the design guidelines and development standards. For example, future development within the Plan Area would be required to comply with the Specific Plan's design guidelines, which establish parameters for building design and massing, facades and street walls, circulation and parking, landscaping, signage, and utility areas. These design guidelines would help create a uniform architectural theme for the Plan Area. Compliance with the design guideline and development standards would be ensured through the County's development review process.

In addition, compliance with the development standards of the Specific Plan related to permitted uses, development intensity, building placement (i.e., setbacks and fronting), building heights, and parking requirements would ensure that all new development projects that would be accommodated by the Specific Plan are built to share similar character and style to unify the Plan Area. For example, minimum and maximum setbacks and building heights have been established in the Specific Plan to create a consistent street scene, provide attractive landscaping, and provide visual buffers.

The Specific Plan's landscape plan also includes a variety of new trees, shrubs, and groundcover around the proposed buildings and structure; along the street and freeways frontages; and within the parking areas and common areas. Pursuant to the landscape design guidelines of the Specific Plan, landscaping with variations in height, type and color would be introduced along the Plan Ara edges and internally to soften the "hardness" of the buildings and structures of development projects that would be accommodated by the Specific Plan. Overall, the landscape elements proposed for the Plan Area would help to visually soften the height and massing of the proposed buildings when viewed from surrounding roadways, as well as help provide visual interest and relief. Also, pursuant to County requirements, the project proponent(s) would be required to submit a landscaping plan for review and approval by Kings County.

Furthermore, the Specific Plan would preserve approximately 207 acres of existing agricultural land use. A good part of the 207 acres consists of almond orchards, which includes dense planting of trees. Under the Specific Plan, the majority of the orchard (generally west of I-5 and east of 25th Avenue) would remain and continue to provide a visual buffer. Specifically, the orchard would provide a buffer between future development that would be accommodated in the Plan Area by the Specific Plan and motorists traveling on I-5.

Site grading under the Specific Plan would also involve removal of vegetation from the Plan Area and alter the natural topography. However, alteration of the natural topography would be minimal as the Plan Area is generally flat with no significant topographical features.

Based on the preceding, impacts related to aesthetic and visual character would less than significant. This impact will not be evaluated in the EIR.

d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?

Less Than Significant Impact. Nighttime illumination and glare impacts are the effects of a project's exterior lighting upon adjoining uses and areas. Glare can also be generated by light reflecting off passing cars and large expanses of glazing (i.e., glass windows) or other reflective surfaces. Excessive light and/or glare can impair vision, cause annoyance, affect sleep patterns, and generate safety hazards when experienced by drivers. Following is a discussion of the potential day and nighttime light and glare impacts in the project area as a result of development that would be accommodated under the Specific Plan.

As shown in Figure 3, *Aerial Photograph*, the Plan Area and its surroundings are developed with agricultural land and rangeland and are void of daytime glare and nighttime light sources. The only sources of nighttime light and glare in the project area are a few streetlights along I-5 and from headlights of vehicles traveling on I-5 and the portion of Utica Avenue that intersects with I-5.

Daytime Glare

Glare is largely a daytime phenomenon occurring when sunlight is reflected off the surfaces of buildings or objects. Excessive glare not only impedes visibility, but also increases the ambient heat reflectivity in a given area. Development that would be accommodated by the Specific Plan includes building materials and architectural treatments that could cause daytime glare on abutting roadways, but not to such an extent that they would result in a significant impact on motorist traveling on I-5 or Utica Avenue. For example, the architectural treatments of the future buildings would include style-appropriate architectural building materials, such as stucco; concrete masonry; stone veneers; wood and metal siding exteriors; and glass windows and doors. However, aside from the glass windows and doors, the building materials and architectural treatments would not be reflective in nature and would therefore not create substantial day or nighttime glare. Future buildings would also not include large expanses of glazing (i.e., glass windows and doors). Therefore, daytime glare impacts from project-related architectural treatments and building materials would be less than significant. This impact will not be evaluated in the EIR.

Nighttime Lighting

As noted above, the only sources of nighttime light and glare in the project area are a few streetlights along I-5 and from headlights of vehicles traveling on I-5 and to a much lesser extent, the portion of Utica Avenue that intersects with I-5. I-5 introduces typical vehicle created nighttime lighting to the area that is visible from quite a distance on the valley floor.

Improvements and future developments in the Plan Area under the Specific Plan would generate new sources of light and glare that could substantially affect nighttime views in the Plan Area and its surroundings. Sources of light and glare from new development accommodated by the Specific Plan would include lighting needed to provide nighttime street and building illumination, security lighting, nighttime traffic, sign illumination, and potentially lighting associated with construction activities (e.g., lit construction trailers, site lighting). New light sources would also result in a greater overall level of nighttime lighting in the area; therefore, reducing night sky visibility and affecting the general character of the area.

3. Environmental Analysis

However, there are no light-sensitive uses (e.g., residences, convalescent homes, hospitals) in, adjacent to or in proximity of the Plan Area. As shown in Figure 3, *Aerial Photograph*, surrounding land uses primarily consist of active and fallow agricultural land or grazing lands. Therefore, nighttime light and glare impacts on sensitive uses would not occur.

Additionally, Section 4.8 (Outdoor Lighting) of the Specific Plan outlines requirements for outdoor lighting. Future development projects accommodated by the Specific Plan would be required to adhere to these lighting requirements, which include but are not limited to:

- All exterior lighting shall be designed and located to minimize power consumption and to confine direct rays to the premises.
- The use of "Night Sky Friendly" lighting fixtures and equipment is required for all public and private outdoor spaces wherever feasible. All lighting shall comply with standards established by the International Dark Sky Association.

All proposed exterior lighting would be designed, arranged, installed, directed, shielded, operated, and maintained in such a manner as to contain direct illumination onsite and prevent light and glare impacts offsite in accordance with the provisions of the Specific Plan — as well as any other applicable County lighting standards — thereby preventing excess illumination and light spillover onto adjoining land uses and/or roadways. For example, nighttime lighting used for signage would be used to advertise the business and provide directional information but would not affect the overall nighttime view in the project area.

Compliance with the lighting provisions of the Specific Plan and County would also help ensure preservation of the regions night skies and help prevent excessive nighttime light pollution. Also, pursuant to County requirements, the project proponent(s) would be required to submit a lighting plan for review and approval by Kings County.

Furthermore, development that would be accommodated by the Specific Plan would be required to comply with California's Building Energy Efficiency Standards for Residential and Nonresidential Buildings, Title 24, Part 6, of the California Code of Regulations, which outlines mandatory provisions for lighting control devices and luminaires. For example, the lighting sources of development projects would be required to be installed in accordance with the provisions of Section 110.9 (Mandatory Requirements for Lighting Control Devices and Systems, Ballasts, and Luminaires).

Furthermore, a good part of the 207 acres that would be preserved for agricultural land use consists of almond orchards, which includes dense planting of trees. Under the Specific Plan, the majority of the orchard (generally west of I-5 and east of 25th Avenue) would remain and help shield some of the lighting that would emanate from various development areas of the Plan Area onto I-5.

Based on the preceding, nighttime light and glare impacts as a result of development that would be accommodated by the Specific Plan would be less than significant. This impact will not be evaluated in the EIR.

3.2 AGRICULTURE AND FORESTRY RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

Potentially Significant Impact. Onsite land uses primarily consist of active and fallow agricultural land or rangeland, as shown in Figure 3, *Aerial Photograph*. The agricultural production in the area consists mainly of irrigated crops such as almonds, pistachios, and stone fruits (apricots and plums); dry land grazing also occurs onsite. The Plan Area has historically been used for farming and portions of the Project Area presently contain an orchard of almond trees near the end of their productive life expectancy. Much of the Plan Area has been in agricultural use since at least 2005, as shown on historical aerial photographs, and land next to the southeast site boundary has been in agricultural use since at least 1994 (NETR 2019). The southern part of the Plan Area is shown in agricultural use on topographic maps dated 1956 and 1976 (NETR 2019).

The Plan Area includes about 210 acres of Prime Farmland and about 205 acres of Grazing Land, as mapped by the Division of Land Resource Protection (DLRP 2016). Prime farmland has the highest value of three categories of mapped important farmland analyzed under CEQA. Development that would be accommodated by the Specific Plan would convert part of the Prime Farmland onsite to nonagricultural uses. This impact is potentially significant and will be analyzed in the EIR; mitigation measures will be identified as necessary.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

Less Than Significant Impact. Williamson Act contracts restrict the use of privately-owned land to agriculture and compatible open-space uses under contract with local governments; in exchange, the land is taxed based on actual use rather than potential market value. The Plan Area is not subject to a Williamson Act contract (DLRP 2015).

The Plan Area is currently zoned General Agriculture-40 District (AG-40) with a minimum parcel size of 40 acres. The properties surrounding the Plan Area are also zoned similarly. Project approval would involve a zone change to change the Plan Area's zoning designation of AG-40 to Specific Plan. Upon approval of the proposed zone change, the proposed land uses would conform with the revised zone designation. Additionally, as shown in Figure 4, *Specific Plan Land Use Plan*, just under half (207 acres) of the Plan Area would be designated as Specialty Agriculture, which allows for the continued operation of the almond tree orchard. The Specialty Agriculture land use designation would establish an agricultural buffer between the commercial uses proposed

in the northern portion of the Plan Area and continued intensive agricultural production to the south, both within the Plan Area boundary and beyond. Additionally, the California Aqueduct along the west and transportation corridors of I-5 and Utica Avenue along the east and north, respectively, would provide buffer boundaries from surrounding agricultural operations.

Based on the preceding, impacts would be less than significant and this impact will not be analyzed in the EIR.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

No Impact. Forest land is defined as "land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits" (California Public Resources Code § 12220[g]). Timberland is defined as "land…which is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees" (California Public Resources Code § 4526).

Onsite land uses primarily consist of active and fallow agricultural land or rangeland, as shown in Figure 3, *Aerial Photograph*. Part of the Plan Area is cultivated as orchards—consisting of almond, pistachio, apricot, and plum orchards—and the balance of the site is fallow agricultural land. However, all trees onsite are nonnative trees that have been planted for farming purposes over time and are not cultivated for forest or timberland resources. Orchard use is not considered forest land or timberland.

Additionally, the Plan Area is not zoned for forest land, timberland, or timberland production. As stated above, the Plan Area is zoned General Agriculture-40 District (AG-40) and would be rezoned to Specific Plan. Therefore, development that would be accommodated by the Specific Plan would not conflict with any such zoning and no impact would occur. This impact will not be analyzed in the EIR.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. See response to Section 3.2.c, above. As substantiated in that section, no impact would occur. This impact will not be analyzed in the EIR.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

Less Than Significant Impact. See responses to Sections 3.2.a, b, and c, above.

Additionally, development of nonagricultural land uses next to agricultural land can reduce the agricultural value of the latter area through factors that include:

- Restrictions on the use of pesticides, fungicides, and herbicides
- Restrictions on noise, burning, and dust

- Vehicular emissions from new development that may impact the health of crops
- Competition for water supply
- Land's market value surpassing the land's value for agricultural production
- Increased congestion that may cause hazards related to moving crops and machinery
- Increased traffic congestion leading to longer transport time of products
- Loss of any habitat value
- Vandalism from trespass, crop pilferage, and damage to equipment. (Michael Brandman 2008)

The Kings County Right to Farm Ordinance (Kings County Code of Ordinances Section 14-38) determined that agricultural activities are a high priority and favored use of rural land, and farming activities will not be considered a nuisance for those inconveniences or discomforts arising from normal, usual, and customary agricultural operations (Michael Brandman 2008). The Plan Area is in a rural area, and thus the Right to Farm Ordinance applies to the Plan Area. The Plan Area does not propose any sensitive types of land uses (such as residential, school, day care, hospital, and nursing home uses) and would not discourage on-going agricultural uses adjacent to the Plan Area. As shown in Figure 4, just under half (207 acres) of the Plan Area would be designated as Specialty Agriculture (A-JR), which allows for the continued operation of the almond tree orchard.

Therefore, impacts would be less than significant and this impact will not be analyzed in the EIR.

3.3 AIR QUALITY

Where available, the significant criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

Potentially Significant Impact. The Plan Area is in the San Joaquin Valley Air Basin (SJVAB) and is subject to the air quality management plans prepared by the San Joaquin Valley Air Pollution Control District (SJVAPCD). Construction activities in the Plan Area would generate exhaust from construction equipment and vehicle trips, fugitive dust from ground-disturbing activities, and off-gas emissions from architectural coatings and paving. Additionally, implementation of the Specific Plan would result in new development intensity and associated increase in criteria air pollutants as a result of long-term operational activities. This impact is potentially significant and will be analyzed in the EIR. The EIR will evaluate the Specific Plan's consistency with regional growth forecasts and the impacts it would have on the attainment of regional air quality objectives. Mitigation measures will be identified as necessary.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard? (Left off here)

Potentially Significant Impact. The SJVAB is designated nonattainment for ozone (O_3) and fine inhalable particulate matter ($PM_{2.5}$) under the California and National Ambient Air Quality Standards (AAQS) and

nonattainment for coarse inhalable particulate matter (PM_{10}) under the California AAQS. In accordance with SJVAPCD's methodology, any project that produces a significant project-level regional air quality impact in an area that is in nonattainment contributes to the cumulative impact. Air pollutant emissions associated with the Specific Plan could occur over the short term for site preparation and construction activities. In addition, emissions could result during long-term operation of proposed facilities. An air quality analysis will be prepared to determine if the Specific Plan would result in a cumulatively considerable net increase in any criteria air pollutant. This impact is potentially significant and will be evaluated in the EIR; mitigation measures will be identified as necessary.

c) Expose sensitive receptors to substantial pollutant concentrations?

Potentially Significant Impact. An air quality analysis is required to determine if the potential mobile and stationary air emissions associated with implementation of the Specific Plan could result in exposure of offsite sensitive receptors to significant concentrations of air pollutants. An air quality analysis will be prepared to address potential impacts to sensitive receptors that would be exposed on a recurring basis to substantial air emissions associated with the Specific Plan. Further evaluation in the EIR is required to determine the level of significance and to identify mitigation measures (if necessary) that reduce impacts to below a level of significance, if required. This impact is potentially significant and will be evaluated in the EIR; mitigation measures will be identified as necessary.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less Than Significant Impact. The Plan Area would not generate substantial odors. The threshold for odor is if a project creates an odor nuisance pursuant to SJVAPCD Rule 4102, Nuisance, which states:

> A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. The provisions of this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

The type of facilities that are considered to have objectionable odors include wastewater treatments plants, compost facilities, landfills, solid waste transfer stations, fiberglass manufacturing facilities, paint/coating operations (e.g., auto body shops), dairy farms, petroleum refineries, asphalt batch plants, chemical manufacturing, and food manufacturing facilities. The land use that would be accommodate by the Specific Plan do not fall within the aforementioned land uses although the proposed restaurants could generate odors from cooking. Odors from cooking are not substantial enough to be considered nuisance odors that would affect a substantial number of people. Emissions from construction equipment, such as diesel exhaust and VOCs from architectural coatings, may generate odors. However, these odors would be low in concentration, temporary, and are not expected to affect a substantial number of people within a five-mile distance from the planned area. Therefore, implementation of the Specific Plan would result in less than significant odor impacts. This impact will not be analyzed in the EIR.

3.4 BIOLOGICAL RESOURCES

Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Potentially Significant Impact. Sensitive and/or special status animal species may use the Plan Area as a movement corridor or for shelter, foraging, or feeding. For example, the burrowing owl and San Joaquin kit fox have a high potential to occur in the Plan Area due to the presence of suitable habitat (including soils and elevation factors). Other species (San Joaquin (Nelson's) Antelope Squirrel, Loggerhead shrike and American bagger) have a moderate potential to occur in the Plan Area (Ecorp 2019a). Additionally, sensitive and/or special status plant species could inhabit fallow agricultural land in the Plan Area. Therefore, this impact is potentially significant. A biological resource's technical report (BRTR) will be prepared for the Plan Area to analyze potential impacts to sensitive and/or special status specifies as a result of development that would be accommodate by the Specific Plan. This impact will be analyzed in the EIR and the findings and conclusions of the BRTR will be discussed in the EIR. Mitigation measures will be identified as necessary.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

No Impact. Riparian habitats are those occurring along the banks of rivers and streams and are jurisdictional to the California Department of Fish and Wildlife (CDFW). Sensitive natural communities are those that are listed on the CDFW California Natural Diversity Database due to the rarity of the community in the state or throughout its entire range (globally). There are no riparian habitats or other sensitive natural communities occurring in the Plan Area or surrounding areas (Ecorp 2019a). Therefore, implementation of the Specific Plan would not have a substantial adverse effect on any riparian habitat or other sensitive natural community. No impact would occur and this impact will not be analyzed in the EIR.

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

No Impact. Wetlands are defined under the federal Clean Water Act as land that is flooded or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that normally does support, a prevalence of vegetation adapted to life in saturated soils. Wetlands include areas such as swamps, marshes, and bogs. No state or federally protected wetlands or Waters of the United States were identified on the Plan Area (Ecorp 2019a). The California Aqueduct, which passes along a portion of the western Plan Area boundary (see Figure 3, *Aerial Photograph*), is mapped on the United States Fish and Wildlife Service's (USFWS) National Wetlands Mapper as a riverine (USFWS 2019).[1] However, the aqueduct consists of concrete bed and banks and

[1] Per the USFWS, riverine systems include all wetlands and deepwater habitats contained within a channel (USFWS 2019).

therefore, does not support wetland resources such as saturated soil or wetland vegetation. Implementation of the Specific Plan would not impact wetlands directly or indirectly. Therefore, no impact would occur and this impact will not be analyzed in the EIR.

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

Potentially Significant Impact. The concept of habitat corridors addresses the linkage between large blocks of habitat that allow the safe movement of mammals and other wildlife species from one habitat area to another. The Plan Area, which is highly disturbed with active and fallow agriculture, was assessed for its ability to function as a wildlife corridor. No migratory wildlife corridors or native wildlife nursery sites were identified in the Plan Area Additionally, the areas of fallow agriculture were devoid of vegetative cover, very exposed, and do not contain any features that typically are associated with facilitating wildlife movement, (i.e., drainages, riverbeds). The Plan Area is not considered a linkage or corridor between conserved natural habitat areas (Ecorp 2019a). Therefore, no impacts to wildlife corridors or nursery sites are expected to occur during as a result of development that would be accommodate by the Specific Plan.

However, wildlife could use both orchards and fallow agricultural fields for nesting. Potential nesting habitat for migratory birds and raptors protected by the Migratory Bird Treaty Act and California Fish and Game Code is present in the orchards and vegetation suitable for nesting birds was observed immediately adjacent to the Plan Area (Ecorp 2019a). Therefore, project-related construction activities could directly and indirectly affect nesting birds. The BRTR will assess the suitability of nesting to occur in the Plan Area and the potential impacts resulting from implementation of the Specific Plan. This impact is potentially significant and will be addressed in the EIR; mitigation measures will be identified as necessary.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. Onsite land uses primarily consist of active and fallow agricultural land or rangeland, as shown in Figure 3, *Aerial Photograph*. Part of the Plan Area is cultivated as orchards—consisting of almond, pistachio, apricot, and plum orchards—and the balance of the site is fallow agricultural land. Development that would be accommodated by the Specific plan would require removal a good number of trees from the orchards. However, all trees onsite are nonnative trees that have been planted for farming purposes over time. Additionally, Kings County does not have a tree preservation ordinance and does not contain any locally protected trees. Therefore, no impact would occur and this impact will not be addressed in the EIR.

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

No Impact. The Plan Area is not in a Habitat Conservation Plan or Natural Community Conservation Plan (Ecorp 2019a). Therefore, development that would be accommodated by the Specific Plan would not conflict with any such plan. No impact would occur and this impact will not be analyzed in the EIR.

3.5 CULTURAL RESOURCES

Would the project:

a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?

No Impact. Section 15064.5 defines historic resources as resources listed or determined to be eligible for listing by the State Historical Resources Commission, a local register of historical resources, or the lead agency. Generally, a resource is considered "historically significant" if it meets one of the following criteria:

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

ii) Is associated with the lives of persons important in our past;

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

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

No buildings or structures were observed onsite during a field visit by staff of Ecorp Consulting, Inc. (Ecorp 2019b). As shown in Figures 3, *Aerial Photograph*, onsite land uses primarily consist of active and fallow agricultural land or rangeland. Approximately 153 acres of the Plan Area is in agricultural use. The balance of the Plan Area is fallow but has been use for agricultural purposes in the past. Much of the Plan Area has been in agricultural use since at least 2005, as shown on historical aerial photographs, and land next to the southeast site boundary has been in agricultural use since at least 1994 (NETR 2019). Additionally, the Plan Area is not identified on these historic resource lists/databases—the National Register of Historic Places and the California State Historical Landmarks, Points of Historical Interest, and Register of Historic Places. Therefore, no impact to historical resources would occur and this impact will not be addressed in the EIR.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

Potentially Significant Impact. Given the highly-disturbed condition of the Plan Area and its surroundings, the potential for implementation of the Specific Plan to impact unidentified archeological resources is considered low. However, while unlikely, the presence of subsurface archaeological resources in the Plan Area remains possible, and these could be affected by ground-disturbing activities associated with grading and construction activities of development that would be accommodate by the Specific Plan. It is possible that subsurface disturbance might occur at levels not previously disturbed (e.g., deeper excavation than previously performed) or may uncover undiscovered archeological resources in the Plan Area. Therefore, potential impacts to archeological resources could occur as a result of project-related construction activities. An archeological records search will be conducted as part of the cultural resource's assessment for the Plan Area. This impact is potentially significant and will be addressed in the EIR; mitigation measures will be identified as necessary.

c) Disturb any human remains, including those interred outside of dedicated cemeteries?

Less Than Significant Impact. There are no known human remains or cemeteries on or near the Plan Area. The Plan Area is in a highly-disturbed area of the County and is surrounded by similar disturbed areas. Onsite and surrounding land uses primarily consist of active and fallow agricultural land, as shown in Figure 3, *Aerial Photograph*. Therefore, the likelihood that human remains (including those interred outside of formal cemeteries) may be discovered during site clearing and grading activities is considered extremely low. However, development that would be accommodated by the Specific Plan would involve ground-disturbing activities that could have the potential to disturb previously undiscovered subsurface human remains, if any exist. For example, individual development projects would involve deeper excavation than previously performed in the Plan Area.

In the unlikely event of discovery of human remains onsite, the project applicant would be responsible for compliance with California Health and Safety Code Section 7050.5 and CEQA Guidelines Section 15064.5. California Health and Safety Code Section 7050.5 requires that in the event that human remains are discovered in the Plan Area, disturbance of the development site shall halt and remain halted until the coroner has conducted an investigation into the circumstances, manner, and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative. If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes or has reason to believe the human remains to be those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission.

Compliance with existing law regarding the discovery of human remains would reduce potential impacts to human remains to less than significant levels. Therefore, impacts would be less than significant and this impact will not be addressed in the EIR.

3.6 ENERGY

Would the project:

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less Than Significant Impact. Following is a discussion of the potential impacts related to the consumption of energy sources resulting from the construction and operational phases of development that would be accommodated by the Specific Plan.

Construction

The construction phase of development projects that would be accommodate by the Specific Plan would consume energy in the short-term through electricity use, construction vehicles and equipment fuel consumption, and bound energy in construction materials (e.g., such as asphalt, steel, concrete, pipes, and manufactured or processed materials such as lumber and glass).

Electricity

Construction would require the use of construction equipment for grading, hauling, and building activities. Electricity use during construction would vary during different phases of construction—most of the construction equipment during grading would be gas or diesel powered, and the later construction phases, such as interior construction and architectural coatings, would require electricity-powered equipment. The use of electricity would be temporary and would fluctuate according to the phase of construction. The Specific Plan's construction phases would not result in wasteful or unnecessary electricity demands. Therefore, the Specific Plan would not result in a significant impact related to electricity use during the construction phase.

Transportation

Transportation energy use depends on the type and number of trips, vehicle miles traveled, fuel efficiency of vehicles, and travel mode. Transportation energy use during construction would come from the transport and use of construction equipment (off-road), delivery and haul trucks (on-road), and construction employee passenger vehicles (on-road). The majority of construction equipment during grading would be diesel powered.

Construction contractors in California are anticipated to minimize idling of construction equipment during construction in accordance with the provisions of California Code of Regulations (CCR) Section 2485. This code requires that non-essential idling for all diesel-fueled commercial motor vehicles must not exceed 5 consecutive minutes at any location. Such required practices would limit wasteful and unnecessary energy consumption. Furthermore, the use of fuel by on- and off-road vehicles would be temporary and would fluctuate according to the phase of construction. Construction fuel use for the Plan Area would cease upon completion of each project construction phase. No unusual project characteristics would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or state. Therefore, it is expected that construction fuel consumption associated with the Specific Plan would not be any more inefficient, wasteful, or unnecessary than similar development projects.

Therefore, the Specific Plan would not result in a significant impact related to transportation energy use during the construction phase.

Construction Materials

Construction materials may include recycled materials and products originating from nearby sources in order to reduce the costs of transportation. With increasing transportation costs and fuel prices, contractors and owners have a strong financial incentive to avoid wasteful, inefficient, and unnecessary consumption of energy during construction. The type of construction proposed under the Specific Plan is conventional and would be similar to other commercial developments in the County.

Substantial reductions in energy inputs for construction materials can be achieved by building with recycled materials, which require substantially less energy to produce than nonrecycled materials. For example, construction contractors in California are required to reduce construction and demolition waste by recycling/salvaging at least 50 percent of nonhazardous construction and demolition waste, pursuant to the provisions of Section 5.408, Construction Waste Reduction, Disposal, and Recycling, of the California Green Building Standards Code (CALGreen [Title 24, Part 11 of the California Code of Regulations]).

3. Environmental Analysis

The incremental increase in the use of energy bound in construction materials such as asphalt, steel, concrete, pipes, and manufactured or processed materials (e.g., lumber and gas) would not substantially increase demand for energy compared to overall local and regional demand for construction materials. It is reasonable to assume that production of building materials such as concrete, steel, etc., would employ reasonable energy conservation practices in the interest of minimizing the cost of doing business. Therefore, the Specific Plan would not result in a significant impact related to construction materials during the construction phase.

Operation

Operation of uses that would be accommodated by the Specific Plan would create additional demands for building electricity and natural gas compared to existing conditions and would result in increased transportation energy use.

Transportation

During the operational phase, it is anticipated that the Specific Plan would result in an increase in project-related vehicle miles traveled (VMT), and transportation energy consumption from the use of motor vehicles could potentially increase. Project-related VMT would come from employee and visitor vehicle trips, delivery and supply trucks, and trips by maintenance and repair crews.

Fuel consumption in passenger vehicles and trucks is regulated by federal and state laws regarding average corporate fuel economy of vehicles. As vehicle fleets turn over, the overall fuel economy of California's vehicles is improved. Additionally, one of the primary goals of the California Air Resources Board's (CARB) 2017 Scoping Plan is to provide clean transportation options for California residents. California is home to nearly half of the country's zero-emission vehicles. Alternative fuel producers and oil companies are bringing more low carbon fuels to the market than required by the Low Carbon Fuel Standard. And the state has invested in zero-emission vehicles and infrastructure, land use planning, and active transportation options such as walking and biking (CARB 2017). In January 2012, CARB approved the Advanced Clean Cars program for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases with requirements for greater numbers of zero electric vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025 new automobiles will emit 34 percent less global warming gases and 75 percent less smog-forming emissions (CARB 2011).

Development that would be accommodated by the Specific Plan would operate consistent with the requirements of these energy-related regulations and would not result in wasteful or unnecessary fuel demands. Therefore, the Specific Plan would not result in a significant impact related to transportation energy use during the operational phase.

Building Energy Use

Proposed buildings and uses of development projects that would be accommodated by the Specific Plan would result in an increase in electricity and natural gas consumption during the operational phase. Energy would be used for but not limited to heating, cooling, and ventilation of the building; water heating; equipment; appliances; indoor, outdoor, perimeter, and parking lot lighting; and security systems.

All new buildings and structures developed under the Specific Plan would be required to be designed and constructed using the most current adopted green building practices. For example, California's Building Energy Efficiency Standards (Title 24, Part 6 of the California Code of Regulations) are updated on an approximately three-year cycle to incorporate new energy efficiency technologies.[2] The 2019 Building Energy Efficiency Standards were adopted on May 9, 2018, and go into effect for new construction starting January 1, 2020. The 2019 standards focus on four key areas: 1) smart residential photovoltaic systems; 2) updated thermal envelope standards—preventing heat transfer from the interior to exterior and vice versa; 3) residential and nonresidential ventilation requirements; and 4) nonresidential lighting requirements (CEC 2018a). Under the 2019 standards, nonresidential buildings will be 30 percent more energy efficient compared to the 2016 standards (CEC 2018b). All new buildings and structures would also be required to be in compliance with the most current CALGreen standards, and all appliances would comply with the 2012 Appliance Efficiency Regulations.

Furthermore, solid waste from the operational phase will be managed in accordance with the Kings Waste and Recycling Authority's Integrated Waste Management Plan in order to reach the diversion and other goals mandated by the California Integrated Waste Management Act of 1989 (AB 939). AB 939 required all California cities to divert 50 percent of their waste stream from landfills by the year 2000. AB 341 established a new recycling goal of 75 percent by 2020.

Therefore, energy consumption associated with the operational phase of the Specific Plan would not be considered inefficient, wasteful, or unnecessary. The Specific Plan would not result in a significant impact related to building energy use during the operational phase.

Conclusion

Based on the preceding, impacts associated with wasteful, inefficient, or unnecessary consumption of energy during the Specific Plan's construction or operation phases would be less than significant. Therefore, this impact will not be analyzed in the EIR.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less Than Significant Impact. The California Renewables Portfolio Standard (RPS) was established in 2002 under SB 1078 and was amended in 2006 and 2011. The RPS program requires investor-owned utilities, electric service providers, and community choice aggregators to increase the use of eligible renewable energy resources. Renewable energy sources include wind, small hydropower, solar, geothermal, biomass, and biogas. Electricity production from renewable sources is generally considered carbon neutral. Executive Order S-14-08, signed in November 2008, expanded the RPS to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SB X1-2). Senate Bill 350 (de Leon) was signed into law September 2015 and establishes tiered increases to the RPS—40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. Senate Bill 350 also set a new goal to double the energy-efficiency savings in electricity and natural gas through energy efficiency and conservation measures. On September 10, 2018, Governor Brown signed Senate Bill 100 (SB 100), which raises California's RPS requirements to 60 percent by 2030, with interim targets, and 100 percent by 2045. The

[2] The California Energy Code, part 6 of the California Building Standards Code which is title 24 of the California Code of Regulations, also titled The Energy Efficiency Standards for Residential and Nonresidential Buildings.

bill also establishes a state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. Under SB 100, the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

The Plan Area would be serviced by Pacific Gas and Electric. PG&E has reached California's 2020 renewable energy goal three years ahead of schedule, and delivered 33 percent of its electricity from renewable resources in 2017 (PG&E 2018). The net increase in power demand associated with the Specific Plan is anticipated to be within the service capabilities of PG&E and would not impede PG&E's ability to implement California's renewable energy goals. Therefore, the Specific Plan would not obstruct a state or local plan for renewable energy.

Additionally, and with reference to Section 3.6.a above, the Specific Plan would not obstruct a state or local plan for energy efficiency. Impacts would remain less than significant and this impact will not be analyzed in the EIR.

3.7 GEOLOGY AND SOILS

Would the project:

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning map, issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

No Impact. The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. Surface rupture is the most easily avoided seismic hazard. Fault rupture generally occurs within 50 feet of an active fault line and is limited to the immediate area of the fault zone where the fault breaks along the surface. The main purpose of the Alquist-Priolo Earthquake Fault Zoning Act is to prevent construction of buildings used for human occupancy on the surface of active faults, in order to minimize the hazard of surface rupture of a fault to people and habitable buildings. Before cities and counties can permit development within Alquist-Priolo Earthquake Fault Zones, geologic investigations are required to show that the proposed development site is not threatened by surface rupture from future earthquakes.

No active earthquake fault — that is, a fault that has ruptured during Holocene time (the last 11,700 years) — or Alquist-Priolo Earthquake Fault Zone is mapped on or near the Plan Area on the California Geological Survey Data Viewer. The nearest mapped known fault to the Plan Area is about two miles to the south; however, no age estimate is provided for that fault. The nearest mapped active fault to the Plan Area is the San Andreas Fault about 24 miles to the southwest. The nearest Alquist-Priolo Earthquake Fault

Zone to the Plan Area is also about 24 miles to the southwest along the San Andreas Fault (CGS 2019a). Due to the distance to the active faults, the potential for surface rupture of a fault in the Plan Area is considered extremely low.

Therefore, implementation of the Specific Plan would not subject people or structures to hazards arising from surface rupture of a known active fault. No impact would occur and this impact will not be addressed in the EIR.

ii) Strong seismic ground shaking?

Less Than Significant Impact. The most significant geologic hazard to the design life of Jackson Ranch is the potential for moderate to strong ground shaking resulting from earthquakes generated on the faults in seismically active southern California. As with other areas in southern California, it is anticipated that the Plan Area will likely be subject to strong ground shaking due to earthquake faults in the region. The earthquake faults in the region are considered capable of producing strong shaking in the Plan Area, thereby exposing people or structures on the site to potential substantial adverse effects, including the risk of loss, injury, or death. The intensity of ground shaking on individual development sites of the Plan Area would depend on the magnitude of the earthquake, distance to the epicenter, and the geology of the area between the epicenter and the project site.

However, the Plan Area is not at a greater risk of seismic activity or impacts than other sites in central California. Seismic shaking is a risk throughout most of California. The peak ground acceleration estimated to occur in the Plan Area with a 2 percent chance of exceedance in 50 years—that is, an average return interval of 2,475 years—is 0.592g, where g is the acceleration of gravity (CGS 2019b). Ground acceleration of 0.592g correlates with intensity VIII on the Modified Mercalli Intensity (MMI) Scale (Wald et. al. 1999), a subjective scale of how earthquakes are felt by people and the effects of earthquakes on buildings. The MMI Scale is a 12-point scale where Intensity I earthquakes are generally not felt by people; in Intensity XII earthquakes damage is total, and objects are thrown into the air (USGS 2019a). In an intensity VIII earthquake, damage is slight in specially-designed structures; considerable damage occurs in ordinary-substantial buildings with partial collapse; and damage is great in poorly-built structures. Chimneys, factory stacks, columns, monuments, and walls fall, and heavy furniture is overturned.

California regulates development in the state through a variety of tools that reduce hazards from earthquakes and other geologic hazards. The buildings and structures that would be built and occupied in the Plan Area would be designed and constructed in accordance with California regulations. For example, structures for human occupancy would be required to be designed to meet or exceed the most current (2019) California Building Code (CBC; California Code of Regulations, Title 24, Part 2) standards for earthquake resistance; the CBC is adopted by reference in Article II (Building Code) of Chapter 5 (Buildings and Structures) of the Kings County Code of Ordinances. The CBC contains provisions to safeguard against major structural failures or loss of life caused by earthquakes or other geologic hazards; it contains provisions for earthquake safety based on factors including occupancy type, the types of soil and rock onsite, and the strength of ground motion with a specified probability of occurring in the Plan Area. Development projects that would be accommodated by the Specific Plan would be required to adhere

to the provisions of the CBC, which are enforced by the County during the development review and building plan check process. Compliance with the requirements of the CBC for structural safety during a seismic event would reduce hazards from strong seismic ground shaking.

Furthermore, requirements for geotechnical investigations are included in CBC Appendix J (Grading), Section J104.3 (Geotechnical reports). The preparation of geotechnical reports would be required for individual development projects accommodated by the Specific Plan pursuant to the CBC. The geotechnical reports would include calculations of seismic design parameters, pursuant to CBC requirements, that must be used in the design of proposed buildings and structures. For example, testing of samples from subsurface investigations (such as from borings or test pits) would be undertaken as a part of the geotechnical reports. The soil samples would be analyzed to among other factors evaluate slope stability, soil strength, position and adequacy of load-bearing soils, the effect of moisture variation on load-bearing capacity, compressibility, liquefaction, differential settlement, and expansiveness. Also, CBC Section 1705.6 sets forth requirements for inspection and observation during and after grading. Compliance with the provisions of the CBC and design recommendations outlined in the geotechnical reports would be ensured through the County's development review and building plan check process.

In summary, compliance with the provisions of the CBC and implementation of the recommended design recommendations outlined in the individual geotechnical reports would reduce hazards arising from strong seismic ground shaking. Therefore, impacts would be less than significant and this impact will not be analyzed in the EIR.

iii) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. Liquefaction refers to loose, saturated sand or silt deposits that behave as a liquid and lose their load-supporting capability when strongly shaken. Loose granular soils and silts that are saturated by relatively shallow groundwater are susceptible to liquefaction. Liquefaction occurs when three general conditions coexist: 1) shallow groundwater; 2) low density non-cohesive (granular) soils; and 3) high-intensity ground motion. Lateral spreading is the downslope movement of surface sediment due to liquefaction in a subsurface layer.

Part of the Plan Area is in a zone of liquefaction potential mapped in the Kings County General Plan (Kings County 2010). Development in these areas could expose people and structures to seismic related ground failure from liquefaction. However, future development projects that would be accommodated by the Specific Plan would be required to have site-specific geotechnical reports prepared by the project applicant's/developer's geotechnical consultant, in accordance with CBC Appendix J (Grading) Section J104.3 (Geotechnical Reports). The geotechnical reports would include an assessment of liquefaction potential for individual project sites and provide any needed design recommendations for minimizing hazards from liquefaction. Compliance with design recommendations in the individual geotechnical reports would be ensured by County staff during the development review and building plan check process.

Therefore, implementation of the Specific Plan would not cause substantial hazards arising from liquefaction (including lateral spreading), and impacts would be less than significant. This impact will not be analyzed in the EIR.

iv) Landslides?

No Impact. Landslides are the downslope movement of geologic materials. Slope failures in the form of landslides are common during strong seismic shaking in areas of steep hills. The Plan Area and surrounding area are generally flat with no significant slopes; they have an east slope of about 1.2 percent. Landslide incidence for the Plan Area is mapped as low, that is, below 1.5 percent of the area involved throughout Kings County (Kings County 2007). Also, no major slopes or bluffs are on or adjacent to the Plan Area. Therefore, implementation of the Specific Plan would not cause risks related to landslides. No impact would occur and this impact will not be addressed in the EIR.

b) Result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. Erosion is the movement of rock and soil from place to place. Erosion occurs naturally by agents such as wind and flowing water; however, grading and construction activities can greatly increase erosion if effective erosion control measures are not used. Common means of soil erosion from construction sites include water, wind, and being tracked offsite by vehicles.

Following is a discussion of the potential erosion impacts resulting from the construction and operational phases of development pursuant to the Specific Plan.

Construction Phase

Development projects that would be accommodated by the Specific Plan would involve excavation, grading, and construction activities that would disturb soil and leave exposed soil on the ground surface. Common means of soil erosion from construction sites include water, wind, and being tracked offsite by vehicles. These activities could result in soil erosion. However, development in the Plan Area is subject to local and state codes and requirements for erosion control and grading during construction. For example, development projects are required to comply with standard regulations, including South Coast Air Quality Management District Rules 402 and 403, which would reduce construction erosion impacts. Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emissions source. Rule 402 requires dust suppression techniques be implemented to prevent dust and soil erosion from creating a nuisance offsite. For example, as outlined in Table 1 of Rule 403 (Best Available Control Measures), control measures to reduce erosion during grading and construction activities include stabilizing backfilling materials when not actively handling, stabilizing soils during clearing and grubbing activities, and stabilizing soils during and after cut-and-fill activities.

Additionally, the State Water Resources Control Board Order No. 2009-0009-DWQ (Construction General Permit, or CGP) contains water quality standards and stormwater discharge requirements applying to construction projects of one acre or more. The CGP was issued pursuant to the National Pollutant Discharge Elimination System (NPDES) regulations for implementing part of the federal Clean Water Act. The CGP requires preparation of a Stormwater Pollution Prevention Plan (SWPPP) that identifies the sources of pollution that may affect the quality of stormwater discharges and describes and ensures the implementation of best management practices (BMP) to reduce the pollutants, including silt and soil, in construction stormwater discharges. Examples of BMPs that are commonly included in SWPPPs are shown in Table 4.

3. Environmental Analysis

Table 4 Examples of Construction-Phase Stormwater Pollution Prevention BMPs

Category	Goal	Sample Measures
Erosion Controls	Prevent soil particles from being detached from the ground surface and transported in runoff	Preserving existing vegetation; soil binders; geotextiles and mats
Sediment controls	Filter out soil particles that have entered runoff	Barriers such as slit fences and gravel bag berms; and street sweeping
Tracking Controls	Prevent soil from being tracked offsite by vehicles	Stabilized construction roadways and entrances/exits
Wind Erosion Control	Prevent soil from being transported offsite by wind	Similar to erosion controls above
Non-stormwater Management	Prevent discharges of soil from site by means other than runoff and wind	BMPs regulating various construction practices; water conservation
Waste and Materials Management	Prevent release of waste materials into storm discharges	BMPs regulating storage and handling of materials and wastes

Future development within the Plan Area would be required to comply with the NPDES permit by preparing and implementing a SWPPP specifying BMPs for minimizing pollution of stormwater with soil and sediment during project construction. Adherence to the BMPs in the SWPPP would reduce, prevent, or minimize soil erosion from project-related grading and construction activities.

Therefore, impacts related to substantial soil erosion or the loss of topsoil associated with project-related grading and construction activities would be less than significant. This impact will not be evaluated in the EIR.

Operational Phase

The Plan Area is generally flat; no major slopes or bluffs are on or adjacent to the Plan Area. After completion of development projects that would be accommodated by the Specific Plan, the developed portions of the Plan Area would be developed with buildings and structures, access and circulation improvements, and landscape improvements and would not contain exposed or bare soil. Upon completion of development projects, the potential for soil erosion or the loss of topsoil would be expected to be extremely low.

Additionally, preparation of a Water Quality Management Plan (WQMP) or Low Impact Development (LID) report would be required for individual development projects. The WQMP or LID report would specify operational BMPs that would help ensure that soil erosion would not occur under the operation phase of development projects. Compliance with the BMPs in the individual WQMP or LID report would be ensured through the County's development review and building plan check process.

Therefore, soil erosion impacts from the Specific Plan's operation phase would be less than significant. This impact will not be evaluated in the EIR.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Less Than Significant Impact. Impacts arising from liquefaction (including lateral spreading) and landslides are addressed above in Sections 3.7.a.iii and 3.7.a.iv, respectively. As concluded in these sections, impacts would be less than significant and these topics will not be addressed in the EIR.

Subsidence

The major cause of ground subsidence is the excessive withdrawal of groundwater. Soils with high silt or clay content are particularly susceptible to subsidence. The Plan Area is not mapped in an area of subsidence by the US Geological Survey (USGS 2019b). Therefore, implementation of the Specific Plan would not cause substantial hazards due to subsidence and impacts would be less than significant. This impact will not be evaluated in the EIR.

Collapsible Soils

Collapsible soils shrink upon being wetted and/or being subject to a load. Collapsible soils could be present within the Plan Area. Site-specific geotechnical reports would be required for each development project that would be accommodated by the Specific Plan. The geotechnical reports would include an assessment of the suitability of site soils for supporting the proposed structures and other improvements and provide needed design recommendations for remedial grading and for foundation design to minimize hazards from unsuitable soils. Site grading, design, and construction of development projects would conform with the design recommendations of the geotechnical reports. Implementation of the design recommendations would be ensured through the County's development review and building plan check process. Therefore, Specific Plan implementation would not cause substantial hazards arising from collapsible soils, and impacts would be less than significant. The impact will not be analyzed in the EIR.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Less Than Significant Impact. Expansive soils contain substantial amounts of clay that swells when wetted and shrinks when dried; the swelling or shrinking can shift, crack, or break structures built on such soils. Expansive soils could be present in the Plan Area. Site-specific geotechnical reports would be required for each development project that would be accommodated by the Specific Plan. The geotechnical reports would include an assessment of the suitability of site soils for supporting the proposed structures and other improvements and provide needed design recommendations for remedial grading and for foundation design to minimize hazards from expansive soils, if encountered. Site grading, design, and construction of development projects would conform with the design recommendations of the soil investigation report. Implementation of the design recommendations would be ensured through the County's development review and building plan check process. Therefore, impacts would be less than significant. This impact will not be analyzed in the EIR.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact. Development that would be accommodated by the Specific Plan would involve construction of sewer lines and an onsite wastewater treatment facility. Implementation of the Specific Plan would not involve use of septic tanks or other alternative wastewater disposal systems, and no impact would occur. This impact will not be analyzed in the EIR.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Potentially Significant Impact. The Plan Area is in a highly-disturbed area of the County and is surrounded by similar disturbed areas. Given the disturbed condition of the Plan Area and its surroundings, the potential for implementation of the Specific Plan to impact an unidentified paleontological resource is considered low. Additionally, the Plan Area is nearly flat, with a northeast grade of about one percent; there are also no unique geological features on or adjacent to the Plan Area.

While unlikely, the presence of subsurface paleontological resources in the Plan Area remains possible, and these could be affected by ground-disturbing activities associated with grading activities of development that would be accommodate by the Specific Plan. Additionally, one notable fossil locality, the Kettleman Hills fossil beds, is mentioned in the Kings County General Plan (Kings County 2010). The Kettleman Hills fossil beds have yielded abundant fossils of mollusks and echinoderms (sand dollars) (SJVG 2015). The Kettleman Hills are west of the Plan Area. Therefore, this impact is potentially significant. A paleontological records search will be conducted as part of the cultural resource assessment for the Plan Area. This impact is potentially significant and will be analyzed in the EIR; mitigation measures will be identified as necessary.

3.8 GREENHOUSE GAS EMISSIONS

Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Potentially Significant Impact. Global climate change is not confined to a particular project area and is generally accepted as the consequence of global industrialization over the last 200 years. A typical project, even a very large one, does not generate enough greenhouse gas (GHG) emissions on its own to influence global climate change significantly; hence, the issue of global climate change is, by definition, a cumulative environmental impact. The State of California, through its governor and legislature, has established a comprehensive framework for the substantial reduction of GHG emissions over the next 40-plus years. This will occur primarily through the implementation of Assembly Bill 32 (AB 32), Senate Bill 32 (SB 32), and Senate Bill 375 (SB 375), which address GHG emissions on a statewide, cumulative basis. The construction activities, operation, and increase in vehicle traffic associated with development pursuant to the Specific Plan have the potential to generate GHG emissions that could significantly impact the environment. The EIR will evaluate the potential for the Specific Plan to generate a substantial increase in GHG emissions. This impact is potentially significant and will be evaluated in the EIR; mitigation measures will be identified as necessary.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Potentially Significant Impact. The California Air Resources Board's Scoping Plan is California's GHG reduction strategy to achieve the state's GHG emissions reduction target, established by AB 32, of 1990 emission levels by year 2020. In addition, SB 375, the Sustainable Communities and Climate Protection Act of 2008, was adopted by the legislature to reduce per capita vehicle miles traveled and associated GHG emissions from passenger vehicles. The Kings County Association of Governments' 2018 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) identifies per capita GHG reduction from passenger vehicles and light duty trucks in the region from 2018 to 2042. Development under the Specific Plan, including construction and operational activities, would generate a net increase of GHG emissions within the region. As a result, the Specific Plan has the potential to conflict with GHG reduction targets of CARB's Scoping Plan, and impacts are potentially significant. The EIR will evaluate consistency with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. This impact is potentially significant and will be evaluated in the EIR; mitigation measures will be identified as necessary.

3.9 HAZARDS AND HAZARDOUS MATERIALS

Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?

Less Than Significant Impact. The term "hazardous material" is defined in different ways by different regulatory programs. For purposes of this environmental document, the definition of "hazardous material" is the same as that outlined in the California Health and Safety Code, Section 25501:

> Hazardous materials that, because of their quantity, concentration, or physical or chemical characteristics, pose a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. Hazardous materials include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the unified program agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

"Hazardous waste" is a subset of hazardous materials, and the definition is essentially the same as that in the California Health and Safety Code, Section 25117, and in the California Code of Regulations, Title 22, Section 66261.2:

> Hazardous wastes are those that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may either cause, or significantly contribute to an increase in mortality or an increase in serious illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

3. Environmental Analysis

Hazardous materials can be categorized as hazardous nonradioactive chemical materials, radioactive materials, and biohazardous materials (infectious agents such as microorganisms, bacteria, molds, parasites, viruses, and medical waste).

Exposure of the public or environment to hazardous materials could occur through but not limited to the following means: improper handling or use of hazardous materials or waste, particularly by untrained personnel; transportation accident; environmentally unsound disposal methods; and/or fire, explosion, or other emergencies. The severity of potential effects varies with the activity conducted, the concentration and type of hazardous material or wastes present, and the proximity of sensitive receptors.

Following is a discussion of the Specific Plan's potential to create a significant hazard to the public or the environment through the routine use, storage, transport, or disposal of hazardous materials during the construction and operational phases.

Construction Phase

Project-related construction activities would involve the use of larger amounts of hazardous materials than would project operation. Construction of development projects pursuant to the Specific Plan would involve use of hazardous materials such as fuels, lubricants, degreasers, paints and other architectural coatings, fertilizers, and pesticides. Such use could pose risks to construction workers or lead to soil and groundwater contamination if these materials are not properly stored, used, or disposed. However, the materials used would not be in such quantities or stored in such a manner as to pose a significant safety hazard. These activities would also be short term or one time in nature and would cease upon completion of the construction phase. Project construction workers would also be trained in safe handling and hazardous materials use.

Additionally, the use, storage, transport, and disposal of construction-related hazardous materials and waste would be required to conform to existing laws and regulations. These include the Hazardous Material Transportation Act; Resource Conservation and Recovery Act; California Hazardous Waste Control Act, Unified Program; and California Accidental Release Prevention Program. Kings County Environmental Health (KCEH) is the Certified Unified Program Agency for Kings County; the Unified Program coordinates and makes consistent enforcement of several state and federal regulations governing hazardous materials. For example, KCEH administers the Accidental Reporting Program, Hazardous Materials Business Plans, Above Ground Storage Tank Program, and Underground Storage Tank Program (KCEH 2019).

Compliance with applicable laws and regulations governing the use, storage, and transportation of hazardous materials would ensure that all potentially hazardous materials are used and handled in an appropriate manner and would minimize the potential for safety impacts to occur. For example, all spills or leakage of petroleum products during construction activities are required to be immediately contained, the hazardous material identified, and the material remediated in compliance with applicable state and local regulations for the cleanup and disposal of that contaminant. All contaminated waste encountered would be required to be collected and disposed of at an appropriately licensed disposal or treatment facility. Also, coordination with the owners/operators of high-priority underground utility lines prior to excavation would avoid damage to high-pressure pipelines or natural gas/petroleum pipelines in the Plan Area.

Based on the preceding, hazards to the public or the environment arising from the routine use of hazardous materials during the Specific Plan's construction phases would be less than significant. Therefore, this impact will not be evaluated in the EIR.

Operation Phase

The Specific Plan proposes a range of commercial and industrial uses such as restaurants, gas stations, a truck stop, hotels, distribution centers, and light industrial uses. Such uses would involve the use varying amounts and types of hazardous materials. However, it is not anticipated that the activities of individual development projects would involve the use of unusually-hazardous materials that could impact surrounding agricultural land uses. As shown in Figure 3, *Aerial Photograph*, there are no sensitive land uses adjacent to or in proximity of the Plan Area. With the exception of gasoline stations permitted by the Specific Plan (which would include storage of large amounts of gasoline and diesel fuels), operation of individual development projects would involve the use of small amounts of hazardous materials, such as cleansers, cooking grease, fuels, paints, degreasers, adhesive, sealers, fertilizers, and pesticides for cleaning and maintenance purposes. Also, the land uses that are permitted by and would be accommodated by the Specific Plan are not associated with uses that use, generate, store, or transport large quantities of hazardous materials; such uses generally include manufacturing, heavy industrial, medical (e.g., hospital), and other similar uses.

Additionally, the use, storage, transport, and disposal of hazardous materials during the operation phase of individual development projects would be subject to existing regulations of the same agencies that would regulate such use during project construction phases. For example, pursuant to Sections 25117 and 25411 of the California Health and Safety Code, if reportable quantities of hazardous materials or waste will be handled or generated in the Plan Area, a hazardous materials business plan is required to be filed with Kings County. A reportable quantity consists of any hazardous material or mixture containing a hazardous material in amounts greater than or equal to 500 pounds, 55 gallons, or 200 cubic feet of gases measured at standard temperature and pressure. Compliance with Sections 25117 and 25411 of the California Health and Safety Code would be required as applicable for development projects of the Plan Area. Also, the transportation of hazardous material or mixture containing a hazardous material is regulated through licensing requirements by the California Department of Motor Vehicles and through the vehicle code enforced by the California Highway Patrol.

Compliance with applicable laws and regulations governing the use, storage, transportation, and disposal of hazardous materials would ensure that all potentially hazardous materials are used and handled in an appropriate manner and would minimize the potential for safety impacts. Jackson Ranch would also be operated with strict adherence to all emergency response plan requirements set forth by County.

Furthermore, solid waste would be generated by the construction and operational phases of individual development projects. Any construction-related hazardous waste and materials would be disposed of at the Kettleman Hills Hazardous Waste Facility approximately four miles northwest of the Plan Area; the facility is which is managed and operated by Waste Management. The facility is a fully permitted, 1,600-acre hazardous waste treatment, storage and disposal facility that is permitted by Kings County and inspected monthly by the

Kings County Health Department, Environmental Health Services. Any hazardous materials and wastes would be recycled, treated, and disposed of in accordance with federal, state, and local laws.

Based on the preceding, hazards to the public or environment arising from the routine use of hazardous materials during the Specific Plan's operational phases would be less than significant. Therefore, this impact will not be analyzed in the EIR.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less Than Significant Impact. Following is a discussion of the potential hazards impacts that could arise through the accidental release of hazardous materials from the Specific Plan's construction and operational phases, as well from existing site materials contained onsite.

Hazardous Materials Associated with Construction and Operation Phases

See response to Section 3.9.a., above. As concluded in this section, hazards to the public or environment arising from the routine use of hazardous materials during project operation and construction phases would less than significant. Additionally, the land uses that would be accommodated by the Specific plan would not involve uses that generate air toxics requiring an SCAMQD permit. Therefore, impacts would be less than significant and this impact will not be evaluated in the EIR.

Hazardous Materials Associated with Project Site Conditions

Onsite land uses primarily consist of active and fallow agricultural land or rangeland, as shown in Figure 3, *Aerial Photograph*. The agricultural production in the area consists mainly of irrigated crops such as almonds, pistachios, and stone fruits (apricots and plums); dry land grazing also occurs onsite. The Plan Area has historically been used for farming and portions of the Plan Area presently contain an orchard of almond trees near the end of their productive life expectancy. Power lines on wooden poles line the northern site boundary, abutting Utica Avenue; they also traverse the entire stretch of the central portion of the Plan Area from the northern to southern boundary.

Development that would be accommodate by the Specific Plan would require grading activities that would involve soil disturbance throughout the Plan Area and where necessary, hauled offsite. Because of the historic and present agricultural use of the Plan Area, there is a high potential for agricultural chemicals (pesticides and/or herbicides) to be present in soils throughout the Plan Area. However, application of these materials is highly controlled by state regulations including precautious to avoid "drift" of spray applications. Additionally, any contaminated soil encountered during grading activities would be hauled offsite to the appropriate disposal facility and in accordance with all applicable laws and regulations associated with the transport and disposal of hazardous and nonhazardous materials. As also shown in Figure 3, *Aerial Photograph*, there are no sensitive land uses adjacent to or in proximity of the Plan Area that could be affected by future grading activities.

Furthermore, development activity under the Specific Plan would involve removal of the wooden poles and electrical and telecommunication lines throughout the Plan Area; where feasible, electrical lines would be undergrounded. The electrical infrastructure to be removed is not associated with or contains hazardous

materials. All electrical infrastructure to be removed would be hauled offsite to the appropriate disposal or recycling facility and in accordance with all applicable laws and regulations associated with the transport and disposal of hazardous and nonhazardous materials.

Based on the preceding, it is highly unlikely that development that would be accommodated by the Specific Plan would cause the release of hazardous materials into the environment. Therefore, impacts would be less than significant and this impact will not be evaluated in the EIR.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact. There are no schools within one-quarter mile of the Plan Area. The nearest school is the Kettleman City Elementary school approximately 5.6 miles to the northwest. Therefore, Specific Plan development would not expose people at a school to hazards through hazardous emissions or handling hazardous materials. No impact would occur and this impact will not be addressed in the EIR.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Impact. California Government Code Section 65962.5 requires the compiling of lists of the following types of hazardous materials sites: hazardous waste facilities subject to corrective action; hazardous waste discharges for which the State Water Quality Control Board has issued certain types of orders; public drinking water wells containing detectable levels of organic contaminants; underground storage tanks with reported unauthorized releases; and solid waste disposal facilities from which hazardous waste has migrated. The following regulatory agency databases were searched on January 24, 2019:

- GeoTracker, State Water Resources Control Board (SWRCB 2019)
- EnviroStor, Department of Toxic Substances Control (DTSC 2019)
- EnviroMapper, US Environmental Protection Agency (USEPA 2019a)
- EJScreen, US Environmental Protection Agency (USEPA 2019b)
- Solid Waste Information System (SWIS), California Department of Resource Recovery and Recycling (CalRecycle 2019)

The search radius used was one mile from the Plan Area. Based on the search of these databases, there are no hazardous materials sites of the types specified in California Government Code Section 65962.5 associated with the Plan Area. Kettleman Pistachio Growers, at 39005 25th Avenue in Kettleman City at approximately 0.25 mile south of the Plan Area, is listed on EnviroMapper as a hazardous waste transporter (USEPA 2019a). However, the hazardous waste transporter listing of this business is not an environmental concern for the Plan Area. Therefore, no impact would occur and this impact will not be evaluated in the EIR.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles or a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

No Impact. The nearest public-use airport to the Plan Area is Corcoran Airport about 21 miles to the northeast (Caltrans 2019b); the Plan Area is nowhere near the area covered in the airport land use compatibility plan of this public-use airport. Therefore, Specific Plan buildout would not cause a hazard or excessive noise for people onsite and no impact would occur. This impact will not be addressed in the EIR.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact. The Standardized Emergency Management System (SEMS), California Code of Regulations, Title 19, Division 2, Section 2443, requires compliance with the SEMS to "be documented in the areas of planning, training, exercise, and performance." The Kings County Emergency Operations Plan (EOP) was approved by the County Board of Supervisors in November 2015. The EOP, which is overseen and managed by the Kings County Office of Emergency Management (OEM), meets the SEMS requirements of state law. The EOP addresses the County's planned response to extraordinary emergency situations associated with natural disasters, technological incidents, and national security emergencies in or affecting Kings County. The purpose of the EOP is to provide the basis for a coordinated response before, during and after a disaster incident (OEM 2015). Under the EOP, OEM provides dedicated staff responsible for managing the County's Emergency Operations Center (EOC), which include personnel from County departments (e.g., Kings County Fire Department and Kings County Sheriff's Office), supporting allied agencies and community organizations that have been assigned primary functions or responsibilities within the EOP.

Implementation of the Specific Plan would have no adverse impact on OEM's continued implementation of the EOP or operation of the EOC. During the construction and operation phases, development projects that would be accommodated by the Specific Plan would not interfere with any of the daily operations of OEM or its support system, including those of the Kings County Fire Department (KCFD) and Kings County Sheriff's Office (Sherriff). For example, to address fire and emergency access needs of KCFD and the Sherriff, the traffic and circulation components of individual development projects would be designed and constructed in accordance with all applicable design standards for emergency access (e.g., minimum lane width and turning radius). For example, new streets and drives aisles would be designed to meet the minimum width requirements of KCFD to allow the passing of emergency vehicles. Future development projects under the Specific Plan would also be required to incorporate all applicable design and safety requirements in the most current adopted fire codes, building codes, and nationally recognized fire and life safety standards of the County and KCFD. Compliance with these codes and standards is ensured through the County's and KCFD's development review and building permit process.

Additionally, during the County's building plan check and development review process, County staff would coordinate with KCFD and the Sheriff to ensure that the necessary fire prevention and emergency response features are incorporated into development projects and that the necessary circulation and access improvements

(e.g., adequate turning radii for fire trucks) are provided in the traffic and circulation components of individual projects under the Specific Plan.

Furthermore, none of the buildings or land uses that would be developed in Jackson Ranch are considered a critical facility as defined by the Essential Services Building Seismic Safety Act for buildings that provide essential services after a disaster.

Therefore, no impact would occur and this impact will not be evaluated in the EIR.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

No Impact. A wildland fire hazard area is typically characterized by areas with limited access, rugged terrain, limited water supply, and combustible vegetation. There would be no impact for wildland fire risks due to implementation of the Specific Plan, as substantiated in Section 3.20, *Wildfire*. As noted in Section 3.20, the Plan Area is not in or near a state responsibility area or land classified as very high fire hazard severity zone. Therefore, implementation of the Specific Plan would not introduce people or structures to substantial hazards from wildland fires. No impact would occur and this impact will not be addressed in the EIR.

3.10 HYDROLOGY AND WATER QUALITY

Would the project:

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Potentially Significant Impact. The US Environmental Protection Agency (EPA) establishes national water quality standards. Pursuant to Section 402 of the Clean Water Act, EPA has also established regulations under the National Pollution Discharge Elimination System (NPDES) program to control direct stormwater discharges. In Kings County, the Central Valley Regional Water Quality Control Board (RWQCB) administers the NPDES permitting programs and is responsible for developing waste discharge requirements. Construction and operation of future projects developed pursuant to the Specific Plan have the potential to discharge sediment and pollutants to storm drains and receiving waters, thereby leading to a potential water quality impact. This impact is potentially significant and will be evaluated in the EIR; mitigation measures will be identified as necessary.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Potentially Significant Impact. Implementation of the Specific Plan would increase the number of visitors and workers in the area, and total domestic water demand could rise. The Plan Area is served by the Dudley Ridge Water District (DRWD). DRDW does not use local groundwater due to its low yields and poor quality (DRWD 2012). Since no groundwater is not used to meet the Plan Area's water demand, implementation of the Specific Plan would not impact groundwater supplies.

3. Environmental Analysis

The Plan Area is in the San Joaquin Valley Groundwater Basin, which is surrounded on the west by the Coast Ranges, on the south by the San Emigdio and Tehachapi Mountains, on the east by the Sierra Nevada and on the north by the Sacramento-San Joaquin Delta and Sacramento Valley (CDWR 2006). The Plan Area is in a rural area with a high percentage of pervious surfaces. Implementation of the Specific Plan would increase development intensity and increase impervious surfaces in the plan area, thus decreasing groundwater recharge. Impacts to groundwater recharge due to implementation of the Specific Plan are potentially significant and will be evaluated in the EIR; mitigation measures will be identified as necessary.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i) Result in a substantial erosion or siltation on- or off-site?

Potentially Significant Impact. No streams or rivers traverse the Plan Area. The nearest drainage channel is the California Aqueduct, which is approximately 250 feet east of the Plan Area (see Figure 3, *Aerial Photograph*). Development that would be accommodated by the Specific Plan would not involve alteration of the aqueduct's course. However, impacts relating to erosion and siltation may occur as a result of grading and construction activities of future development projects. Therefore, this impact is potentially significant and will be evaluated in the EIR; mitigation measures will be identified as necessary.

ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

Potentially Significant Impact. As noted above, implementation of the Specific Plan would not alter the California Aqueduct or any other water course. However, implementation of the Specific Plan would convert pervious farmland to impervious surfaces, thus potentially increasing the amount and/or rate of surface runoff. This impact is potentially significant and will be evaluated in the EIR; mitigation measures will be identified as necessary.

iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Potentially Significant Impact. Development in accordance with the Specific Plan would involve alteration of land uses in the Plan Area. Increased impervious surfaces may increase the amount of runoff and discharge of sediments and pollutants to stormwater drainage systems. An infrastructure technical report will be prepared as part of the Specific Plan and EIR to determine whether existing storm drain facilities are adequate to collect and convey runoff generated by new development in the Plan Area, or if new facilities would be needed. This impact is potentially significant. The EIR will evaluate potential impacts to stormwater systems and water quality, and mitigation measures will be identified as necessary.

iv) Impede or redirect flood flows?

No Impact. According to the Health and Safety Element of the Kings County General Plan, the Plan Area is not in a Federal Emergency Management Agency (FEMA) flood zone or a Department of Water

Resources floodplain. The Plan Area is also not in a dam inundation area (Kings County 2010). Therefore, the Specific Plan would not impede or redirect flood flows. No impact would occur and this impact will not be evaluated in the EIR.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

No Impact. The following describes potential pollutant impacts related to flood hazard, seiche, and tsunami zones.

Flood Hazard

As noted in Section 3.10.a.iv, above, the Plan Area is not in a FEMA flood zone or a Department of Water Resources floodplain. Therefore, there is no risk of pollutant release due to inundation from a flooding event. No impact would occur and this impact will not be evaluated in the EIR.

Seiche

A seiche is a surface wave created when a body of water is shaken, usually by earthquake activity. Seiches are of concern relative to water storage facilities because inundation from a seiche can occur if the wave overflows a containment wall, such as the wall of a reservoir, water storage tank, dam, or other artificial body of water. Although there are no large water tanks in the area that could impact the Plan Area, there are dams in the region that could create flooding impacts. However, as noted in Section 3.10.a.iv, above, the Plan Area is not in a dam inundation area (Kings County 2010). Therefore, there is no risk of pollutant release due to inundation from a seiche. No impact would occur and this impact will not be evaluated in the EIR.

Tsunami

A tsunami is a series of ocean waves caused by a sudden displacement of the ocean floor, most often due to earthquakes. The Plan Area is approximately 65 miles inland from the Pacific Ocean, outside of the tsunami hazard zone identified by the California Governor's Office of Emergency Services (Cal OES 2014). Therefore, there is no possibility of the Plan Area being affected by a tsunami; there is no risk of pollutant release due to inundation from a tsunami. No impact would occur and this impact will not be evaluated in the EIR.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Potentially Significant Impact. The quality of surface and groundwater is affected by land uses in the watershed and the composition of subsurface geologic materials. Water quality in surface and groundwater bodies is regulated by the State Water Resources Control Board and RWQCB. Kings County is under the jurisdiction of the Central Valley RWQCB, which is responsible for implementation of state and federal water quality protection guidelines in the vicinity of the Specific Plan. RWQCB implements the Water Quality Control Plan for the Tulare Lake Basin (Basin Plan), a master policy document for managing water quality issues in the region. Although the Plan Area is in the San Joaquin Valley Groundwater Basin, it is not within an established sustainable groundwater management plan (CDWR 2006) and would not obstruct the implementation of a sustainable groundwater management plan.

However, as indicated in the response to Section 3.6 (a), construction and operation of future projects developed pursuant to the Specific Plan have the potential to discharge sediment and pollutants to receiving waters and may obstruct the implementation of the water quality control plan. This impact is potentially significant and will be evaluated in the EIR; mitigation measures will be identified as necessary.

3.11 LAND USE AND PLANNING

Would the project:

a) Physically divide an established community?

No Impact. As shown in Figure 3, *Aerial Photograph*, there are no established communities surrounding or in proximity of the Plan Area. The Plan Area is surrounded by agricultural uses on all sides and is in a rural, unincorporated area of Kings County. Development that would be accommodated by the Specific Plan would occur within the confines of the Plan Area and would not introduce roadways or other infrastructure improvements that would bisect or transect surrounding agricultural land. Implementation of the Specific Plan would not prevent or interrupt access to and between surrounding agricultural land uses in the area. Therefore, the Specific Plan would not create any land use barriers or otherwise divide or disrupt the physical arrangement of the existing agricultural lands surrounding the Plan Area. No impact would occur and this impact will not be evaluated in the EIR.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Potentially Significant Impact. The Plan Area is designated by the Kings County General Plan as General Agriculture-40 Acre. This designation is applied to rural areas of the County generally characterized by extensive and intensive agricultural uses. This designation allows intensive agricultural uses that by their nature may be incompatible with urban uses. The County zoning district of the Plan Area is General Agriculture-40 District (AG-40). This district is intended primarily for application to rural areas of the County, which are generally characterized by extensive and intensive agricultural uses of land.

Implementation of the Specific Plan would require a General Plan Amendment to change the General Plan Land Use Designation of the Plan Area from General Agriculture-40 Acre to Jackson Ranch Specific Plan. Under the Specific Plan, approximately 175 acres, or 41 percent of the Plan Area, would be changed from General Agriculture-40 Acre to Innovation Center (IC-JR), Commercial Thoroughfare (CT-JR) and Public (P-JR), which would allow commercial and public facility uses. Also, approximately 249 acres, or 59 percent of the Plan Area, is proposed to be changed from General Agriculture-40 Acre to Specialty Agriculture (A-JR). Approximately 56 acres of the 249 acres to be designated Specialty Agriculture would include an Air Strip Overlay, which would allow for the development of a potential future private air strip in the Plan Area.

Implementation of the Specific Plan would also require an amendment to the Kings County Development Code and Zoning District Map. Specifically, the Development Code Amendment is needed to add the Jackson Ranch Specific Plan by reference and the Zoning District Map Amendment is needed to change the zoning district from AG-40 to Jackson Ranch Specific Plan. The Development Code Amendment would state that the

regulating code contained in the Specific Plan would serve as the regulatory plan (zoning, development, and design standards and guidelines) for all development projects in the Plan Area.

The California Government Code (Title 7, Division 1, Chapter 3, Article 8, Sections 65450–65457 [Specific Plans]) provides authority for a city/county to adopt a specific plan by ordinance (as a regulatory plan) or resolution (as a policy plan). When a specific plan is adopted by ordinance, the specific plan effectively replaces portions or all of the current zoning regulations for specified parcels and becomes an independent set of zoning regulations that provide specific direction to the type and intensity of uses permitted or define other types of design and permitting criteria. The Specific Plan would be adopted by the Kings County Board of Supervisors as ordinance and function as the regulatory plan that serves as the implementing zoning for the Plan Area, thereby ensuring the orderly and systematic implementation of the Kings County General Plan.

Therefore, further evaluation in the EIR is required to address potential land use impacts due to implementation of the Specific Plan and accompanying General Plan, Development Code and Zoning District Map Amendments. This impact is potentially significant and will be evaluated in the EIR; mitigation measures will be identified as necessary

3.12 MINERAL RESOURCES

Would the project:

a) Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?

No Impact. The Plan Area is not mapped on a mineral land classification map by the California Geological Survey. Thus, there are no significant mineral resources known to exist or considered likely to exist in the Plan Area (CGS 2019c). Also, no active mines in Kings County are mapped by the California Office of Mine Reclamation (OMR 2019). The portion of the Plan Area east of 25th Avenue is in the Dudley Ridge Gas Field, which is mapped as abandoned. There are no active oil or gas wells on, adjacent to or in proximity of the Plan Area; the nearest active well to the Plan Area is about 2.1 miles to the southwest (DOGGR 2019). Therefore, no impact would occur and this impact will not be analyzed in the EIR.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No Impact. The only mining sites in Kings County identified in the Kings County General Plan are one inactive gravel mine and two agricultural-designated mining reclamation sites that were fully reclaimed (Kings County 2010). Development that would be accommodated by the Specific Plan would not cause a loss of availability of a mining site identified in the Kings County General Plan. Therefore, no impact would occur and this impact will not be analyzed in the EIR.

3.13 NOISE

Would the project result in:

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Potentially Significant Impact. Implementation of the Specific Plan would involve construction and operational activities that would generate noise levels that may expose sensitive land uses to noise levels in excess of the noise standards, although none are located within or adjacent to the Plan Area (see Figure 3, *Aerial Photograph*). Short-term construction activities could elevate ambient noise levels within noise-sensitive land uses. Long-term operation of new development under the Specific Plan could potentially result in two types of long-term noise impacts. The first may occur if project-related noise sources substantially increase noise levels in the vicinity of the Plan Area. Project-related noise sources include stationary sources such as heating, ventilation, and air conditioning (HVAC) units and mobile sources such as project-generated vehicle traffic. The second type of long-term noise impact may occur if the Plan Area's noise-sensitive uses are in an area of high noise exposure. Future development under the Specific Plan has the potential to increase stationary and mobile source noise levels in the project areas. In addition, the Plan Area is in close proximity to major arterial roadways that have the potential to generate substantial traffic noise levels. Further evaluation in the EIR is required to determine potential on- and offsite noise impacts of the Specific Plan.

The Specific Plan would result in an increase in traffic levels in the project vicinity, which could result in a permanent increase in the ambient noise environment. Further evaluation is required to determine potential on- and offsite impacts of the Specific Plan on sensitive receptors. The EIR will evaluate the change in noise levels at noise-sensitive receptors and determine if those receptors would be exposed to noise levels that exceed the noise compatibility criteria of Kings County.

This impact is potentially significant and will be analyzed in the EIR; mitigation measures will be identified as necessary.

b) Generation of excessive groundborne vibration or groundborne noise levels?

No Impact. The potential construction- and operational-related groundborne vibration and noise impacts resulting from implementation of the Specific Plan are addressed below.

Construction Impacts

Construction operations can generate varying degrees of groundborne vibration and noise, depending on the procedures and equipment (mobile and nonmobile) used. Operation of construction equipment generates vibrations that spread through the ground and diminish with distance from the source. The effect on buildings and sensitive land uses in the vicinity of the construction site varies depending on soil type, ground strata, and receptor-building construction. The results from vibration can range from no perceptible effects at the lowest

vibration levels, to low rumbling sounds and perceptible vibrations at moderate levels, to slight structural damage at the highest levels.

As shown in Figure 3, *Aerial Photograph*, there are no buildings/structures or sensitive land use adjacent to or in proximity of the Plan Area that could be affected by any construction-related groundborne vibration or noise generated in the Plan Area. Therefore, no impact resulting from construction-related groundborne vibration and noise would occur and this impact will not be analyzed in the EIR.

Operations Impacts

The operation of future development in the Plan Area would not generate substantial levels of groundborne vibration and noise. Commercial and light industrial operations that would be accommodated by the Specific Plan could possibly generate varying degrees of ground vibration, depending on the operational procedures and equipment. Such equipment-generated vibrations would spread through the ground and diminish with distance from the source. As noted above, the effect on buildings and sensitive land uses in the vicinity of the construction site varies depending on soil type, ground strata, and receptor-building construction.

As shown in Figure 3, there are no buildings/structures or sensitive land use adjacent to or in proximity of the Plan Area that could be affected by any operational-related groundborne vibration or noise generated in the Plan Area. Surrounding land uses primarily consist of active and fallow agricultural land or grazing land. Therefore, no impact resulting from operational-related groundborne vibration and noise would occur and this impact will not be analyzed in the EIR.

c) For a project located within the vicinity of a private airstrip or 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, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The nearest public-use airport to the Plan Area is Corcoran Airport about 21 miles to the northeast (Caltrans 2019b); the Plan Area is nowhere near the area covered in the airport land use compatibility plan of this public-use airport. There are also no private airstrips or airports within two miles of the Plan Area. The Specific Plan does, however, include an Air Strip Overlay land use designation, which would allow development of a potential future private air strip. However, development of a private air strip in the Air Strip Overlay is a potential future use and is not a part of the project scope at this time; no such use is being proposed at this time. If the Air Strip Overlay is implemented in the future, additional CEQA review would be required to address the potential environmental impacts of developing an air strip. Therefore, no impact would occur and this impact will not be addressed in the EIR.

3.14 POPULATION AND HOUSING

Would the project:

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Less Than Significant Impact. The population of Kings County was estimated at 151,662 in 2018 (CDF 2018). The County's population is forecast to increase from 157,400 to 189,745 between 2020 and 2050, an increase of 32,345 or about 17 percent (FCOG 2017). There were an estimated 135,885 households in Kings County in 2018 (CDF 2018). Employment in Kings County was estimated at 49,300 in 2018 (EDD 2019a). Employment in the County is forecast to increase from 63,376 in 2020 to 83,969 in 2050, an increase of 20,593 or about 24 percent (FCOG 2017). The unemployment rate in Kings County in December 2018 was 8.2 percent, consisting of 4,700 unemployed persons (EDD 2019b).

The Plan Area is in the Avenal Census County Division (CCD), comprising the part of the County west of I-5 and the California Aqueduct; the 2017 US Census Bureau American Community Survey population estimate of the Avenal CCD is 13,149 (USCB 2019a). The Avenal CCD is rural except for the City of Avenal; the Plan Area is in the rural area of the CCD. The nearest urban area to the Plan Area is the City of Avenal about 13 miles to the northwest; the population of Avenal in 2018 was estimated at 13,053 (CDF 2018).[3]

There are no housing units or residents in the Plan Area, and none are planned or permitted under the Specific Plan. Therefore, no direct housing or population growth would occur as a result of implementation of the Specific Plan. No direct impact would occur; indirect impacts of the Specific Plan are discussed below.

At buildout, operation of Jackson Ranch is estimated to generate about 1,529 jobs. Continued agricultural operations in the Plan Area are estimated to generate additional employment of about 50 jobs.[4] Project employment growth is within estimated employment growth in Kings County, and thus would not be an adverse impact. The nearest existing communities to the Plan Area are the unincorporated community of Kettleman City and the City of Avenal, both of which are in Kings County. The nearest city or census-designated place outside of Kings County is the City of Huron in Fresno County, 21 miles to the northwest (ESRI 2019). Therefore, this analysis assumes that most workers in the Plan Area will live in Kings County. Some of those workers are expected to be absorbed from the regional labor force.

Regarding indirect project impacts on population growth in Kings County, no estimate is made here of the fraction of project employment that might be absorbed from the regional labor force. Therefore, this analysis assumes that all workers would move in from outside of Kings County and is conservative. The existing jobs-housing ratio (or jobs per household) in Kings County is about 0.36 (49,300 jobs and 135,885 households). Thus, 1,529 workers moving into the region would be expected to occupy about 1,560 households (1,529 jobs

[3] The distance is to the center of the County, not the County boundary. Urban areas contain at least 2,500 people (USCB 2019b).

[4] This estimate is conservative. It assumes that the entire Plan Area is in agricultural production. In fact, the west and northeast parts of the Plan Area—about 170 acres, or approximately 40 percent—were fallow from at least 2013 through 2017 based on Google Earth Pro satellite photographs.

x 1 household per 0.98 job). The estimated average household size in Kings County in 2018 was 3.1 persons (CDF 2018). Thus, 1,560 additional households in the region would be expected to increase the population in Kings County by approximately 4,836 (1,560 households x 3.1 persons per household). This estimate is conservative on two counts: first, some project workers are expected to be absorbed from the regional labor force, and second, some fraction of workers may live outside of Kings County.

The indirect growth in households and population that could result from project workers moving into the region is within the estimated growth in households and in population, respectively. Therefore, indirect project impacts on households and population in Kings County would not result in a significant adverse impact.

Based on the preceding, impacts would be less than significant and this impact will not be analyzed in the EIR.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. There are no houses or residents in the Plan Area (see Figure 3, *Aerial Photograph*), and implementation of the Specific Plan would not require construction of replacement housing. Therefore, no impact would occur and this impact will not be analyzed in the EIR.

3.15 PUBLIC SERVICES

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

a) Fire protection?

Potentially Significant Impact. Fire and emergency services for the Plan Area would be provided by the Kings County Fire Department (KCFD), which operates out of their headquarters location in the City of Hanford and has 12 fire stations in strategic areas of the County. Primary fire and emergency services to the Plan Area would be provided from Station 9 out of Kettleman City, with assistance from other KCFD stations as needed. Land uses accommodated by the Specific Plan, including an innovation center and commercial uses, would result in an increase in the need of fire protection and emergency services. This impact is potentially significant and will be addressed in the EIR; mitigation measures will be identified as necessary.

b) Police protection?

Potentially Significant Impact. The Kings County Sheriff's Office would provide municipal police services for the Plan Area, including duties that are normally associated with a city police department under state statutes. Land uses accommodated by the Specific Plan, including an innovation center and commercial uses, would result in an increase in the need for police protection services. This impact is potentially significant and will be addressed in the EIR; mitigation measures will be identified as necessary.

c) Schools?

No Impact. The increase in the student generation and the need for new or the expansion of existing school facilities is tied to population growth. No residential land uses are proposed and no students would be generated by development that would be accommodated by the Specific Plan. Therefore, no impact to schools would occur and this impact will not be evaluated in the EIR.

d) Parks?

No Impact. See response to Section 3.16.a, below. As substantiated in that section, impacts to parks would be less than significant and this impact will not be evaluated in the EIR.

e) Other public facilities?

No Impact. The need for new or the expansion of existing library services and facilities is tied to population growth. No residential land uses are proposed and no additional residents would be generated by the development that would be accommodated by the Specific Plan. Therefore, no impact to libraries would occur and this impact will not be addressed in the EIR.

3.16 RECREATION

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated?

Less Than Significant Impact. The Plan Area is in a rural area of the County and there are no parks nearby. The nearest park to the Plan Area is in Kettleman City, about 5.5 miles to the north. There is fishing access to the California Aqueduct one mile west of Kettleman City, about 6 miles northwest of the Plan Area. The State Route 41 corridor between I-5 and Utica Avenue, which passes about 3.5 miles northwest of the Plan Area, is designated as Open Space in the Kings County General Plan (Kings County 2010). Additionally, various cities and unincorporated communities in Kings County offer parks and recreational facilities.

The increase in the use of existing parks and recreational facilities and the need for new or the construction or expansion of existing parks and recreational facilities is directly tied to population growth. The Specific Plan does not include or provide for any residential development, which would lead to a direct population growth. Development that would be accommodated by the Specific Plan, however, would add about 1,529 jobs to the Plan Area and overall County; if all those workers moved into Kings County from outside of the region, development could indirectly cause population growth of about 4,836 persons in the County. Growth indirectly resulting from buildout of the Specific Plan would generate demands for parks in Kings County.

The Quimby Act, California Government Code Section 66477, authorizes cities and counties to require developers to dedicate land as parkland, pay in-lieu fees, or both, as a condition of approval for a final subdivision map or parcel map. Dedication and/or payment is based on the number of proposed residential units and the average number of persons per household. While development pursuant to the Specific Plan could indirectly generate population growth in Kings County, it would not result in a requirement for parkland

as set forth in the Quimby Act. No residential development is proposed as a part of the Specific Plan; therefore, no population growth or increase in the use of existing parks or other recreational facilities would occur and no estimate of an indirect impact on demand for parkland is made here.

Based on the preceding, impacts to parks and recreational facilities would be less than significant. This impact will not be evaluated in the EIR.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

No Impact. The Specific Plan does not include or call for the development of any recreational facilities. Also, as substantiated in Section 3.16.a, above, implementation of the Specific Plan would not lead to or require the expansion of any existing recreational facilities anywhere in the County. Therefore, no impact would occur and this impact will not be evaluated in the EIR.

3.17 TRANSPORTATION

Would the project:

a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Potentially Significant Impact. Development pursuant to the Specific Plan would result in the generation of additional vehicular traffic in the area and region. A traffic impact analysis will be prepared to determine the Specific Plan's traffic impacts and will help form the basis for the impact analysis to be provided in the EIR. The traffic impact analysis and EIR will address consistency with existing programs, plans, ordinances, or policies addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. This impact is potentially significant and will be evaluated in the EIR. Mitigation measures will be identified as necessary.

b) Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?

Potentially Significant Impact. As noted above, development pursuant to the Specific Plan would result in the generate generation of additional vehicular traffic in the area and region. The EIR will address consistency with CEQA Guidelines § 15064.3, subdivision (b), relating to vehicle miles travelled. This impact is potentially significant and will be evaluated in the EIR. Mitigation measures will be identified as necessary.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No Impact. The Specific Plan does not propose substantial changes to the Plan Area's circulation patterns or network—such as the redesign or closure of major streets—nor would it increase hazards or impact emergency access due to design features. Instead, the existing circulation system would be maintained (and upgraded where necessary), and no substantial changes or significant congestion would occur that would affect the ability of emergency vehicles to continue to serve all parts of the Plan Area and its surroundings.

3. Environmental Analysis

Additionally, the County and Kings County Fire Department (KCFD) have adopted roadway design standards that preclude the construction of any unsafe design features. Standards for provision of safe road and circulation improvements are also outlined in the Specific Plan. All proposed roadway and circulation improvements would be required to adhere to the County's and KCFD's design standards, as well as those outlined in the Specific Plan, which would be imposed on individual development projects by the County and KCFD during the development review and building plan check process.

Furthermore, construction activities associated with future development projects would also be required to be performed per the County and KCFD standards and codes, thereby avoiding any interference with emergency access during construction. The Specific Plan would also be consistent with the circulation element of the 2035 Kings County General Plan. Implementation of the Specific Plan would also not introduce incompatible land uses to the Plan Are or its surroundings.

Therefore, implementation of the Specific Plan would not result in conflicting land uses, create hazardous conditions, or impact emergency access. No impact would occur and this impact will not be analyzed in the EIR.

d) Result in inadequate emergency access?

No Impact. See response to Section 3.17.a, above.

Additionally, to address fire and emergency access needs, the traffic and circulation components of the Plan Area would be designed and constructed in accordance with all applicable KCFD design standards for emergency access (e.g., minimum lane width and turning radius). For example, new streets and drives aisles would be designed to meet the minimum width requirements of KCFD to allow the passing of emergency vehicles. Future development projects under the Specific Plan would also be required to incorporate all applicable design and safety requirements as set forth in the most current adopted fire codes, building codes, and nationally recognized fire and life safety standards of the County and KCFD. Compliance with these codes and standards is ensured through the County's and KCFD's development review and building permit process.

Furthermore, during the building plan check and development review process, the County would coordinate with KCFD and King's County Sheriff's Office to ensure that the necessary fire prevention and emergency response features are incorporated into the individual development projects pursuant to the Specific and that adequate circulation and access (e.g., adequate turning radii for fire trucks) is provided within the traffic and circulation components.

Therefore, no impact would occur and this impact will not be evaluated in the EIR.

3.18 TRIBAL CULTURAL RESOURCES

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

i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

No Impact. As shown in Figures 3, *Aerial Photograph*, onsite land uses primarily consist of active and fallow agricultural land or rangeland. The site Plan Area has historically been used for farming, and portions of the Project Area presently contain an orchard of almond trees. No structures were observed onsite during a field visit by staff of Ecorp Consulting, Inc. (Ecorp 2019b). Furthermore, the Plan Area is not identified on any federal, state, or local historic registers—National Register of Historic Places or California State Historical Landmarks and Points of Historical Interest. Therefore, no impact would occur and this impact will not be addressed in the EIR.

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

Potentially Significant Impact. This impact is potentially significant and will be evaluated in the EIR. A cultural resource's assessment will be conducted for the Plan Area and tribal consultation will be conducted. The results and conclusions of the assessment and consultation will be included in the EIR. Mitigation measures will be identified as necessary.

3.19 UTILITIES AND SERVICE SYSTEMS

Would the project:

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Potentially Significant Impact. An infrastructure and dry utilities plan will be prepared for the Specific Plan to determine whether buildout of Jackson Ranch would result in the relocation or construction of new or expanded water, wastewater, storm drainage, electric power, natural gas, or telecommunication facilities. This impact is potentially significant and will be evaluated in the EIR; mitigation measures will be identified as necessary.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Potentially Significant Impact. Agricultural water supplies for the Plan Area are provided by the Dudley Ridge Water District (DRWD) through an existing turnout from the California Aqueduct. DRWD supplies water to the Kettleman Water Treatment Plant located five miles north of the Plan Area; the plant is owned and operate by Kettleman City Community Services District (KCCSD). The major source of water for DRWD is imported surface water supplies from the State Water Project (DRWD 2012).

The raw water supply for Jackson Ranch would be the State Water Project and the Kern River Water Bank. Two alternatives are being studied for the provision of potable water for the Specific Plan. The first alternative includes installing an onsite water treatment plant to treat the water supplied from the California Aqueduct to potable standards. A second alternative involves connecting to the Kettleman Water Treatment Plant. The second alternative would require coordination with KCCSD. It would also require approval from the Local Agency Formation Commission of Kings County for any KCCSD boundary or service expansion that may be needed to serve the Specific Plan's potable water needs.

Implementation of the Specific Plan would generate a potential increase in demand for water for domestic and agricultural purposes. The potential volume of this demand will be assessed in a water supply assessment that will be prepared as part of the Specific Plan and EIR. The water demand will be compared to existing and planned water supplies to determine whether implementation of the Specific Plan would result in significant impacts on local or regional water supplies. Communication with the County's Public Works Department is needed to discuss the Specific Plan's impact on that agency's water supplies and to determine whether sufficient water supplies are available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years. This impact is potentially significant and will be evaluated in the EIR; mitigation measures will be identified as necessary.

c) Result in a determination by the waste water treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Potentially Significant Impact. An infrastructure plan will be prepared as part of the Specific Plan and EIR to determine whether facilities are adequate to treat wastewater generated by the development pursuant to the Specific Plan or if new or expanded facilities would be needed. This impact is potentially significant and will be evaluated in the EIR; mitigation measures will be identified as necessary.

d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Potentially Significant Impact. The Kings Waste and Recycling Authority (KWRA) receives solid waste, including recyclable materials, from all unincorporated areas in the County. Solid waste would be generated during construction and operational phases of the Specific Plan; it would be collected by KWRA and transferred to KWRA's Material Recovery Facility and Transfer Station at 7803 Hanford Armona Road in the City of Hanford. Some waste would be recycled at the Material Recovery Facility and Transfer Station prior to

the remainder of the waste being disposed of at a state-licensed landfill in the region. Hazardous waste would be disposed of at the Kettleman Hills Facility approximately four miles northwest of the Plan Area; the facility is managed and operated by Waste Management. Green waste will be disposed of at the Kochergen Farms Composting Facility; the facility is managed and operated by Kochergen Farms Composting, Inc (Kings County 2019). Existing and planned capacity of the solid waste facilities serving the Plan Area and estimated solid waste generation resulting from the construction and operational phases of the Specific Plan will be discussed in the EIR. This impact is potentially significant and will be addressed in the EIR; mitigation measures will be identified as necessary.

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less Than Significant Impact. Additionally, the following federal, state, and local laws and regulations govern solid waste disposal, including:

- **AB 939 (Chapter 1095, Statutes of 1989)**, the California Integrated Waste Management Act of 1989 required each city, county, and regional agency to develop a source reduction and recycling element of an integrated waste management plan that contained specified components, including a source reduction component, a recycling component, and a composting component. With certain exceptions, the source reduction and recycling components were required to divert 50 percent of all solid waste from landfill disposal or transformation by January 1, 2000, through source reduction, recycling, and composting activities.

- **AB 32 (Chapter 488, Statutes of 2006)**, the California Global Warming Solutions Act, established mandatory recycling as one of the measures to reduce GHG emissions adopted in the Scoping Plan by the California Air Resources Board.

- **AB 341 (Chapter 476, Statutes of 2011)** requires that all "commercial" generators of solid waste (businesses, institutions, and multifamily dwellings) establish recycling and/or composting programs. AB 341 goes beyond AB 939 and establishes the new recycling goal of 75 percent by 2020.

Future development pursuant to the Specific Plan (under both the construction and operational phases) would be required to comply with all applicable laws and regulations governing solid waste, including those listed above, and in doing so, not affect the Count's ability to continue to meet the required AB 939 waste diversion requirements.

Additionally, the KWRA—which would collect and dispose of all solid waste, including recyclable materials, generated in the Plan Area—has adopted an Integrated Waste Management Plan that contains the mandatory elements of a Source Reduction and Recycling Element and a Household Hazardous Waste Element. Almost all waste collected by commercial haulers in the unincorporated portion of the County is taken to KWRA's Materials Recovery and Recycling Facility. All unrecyclable material is taken to a state-licensed landfill in the region.

Therefore, no impact would occur and this impact will not be evaluated in the EIR.

3.20 WILDFIRE

Wildland fire protection in California is the responsibility of either the local government, state, or the federal government. State Responsibility Areas (SRA) are the areas in the state where the State of California has the primary financial responsibility for the prevention and suppression of wildland fires. The SRA forms one large area over 31 million acres to which the California Department of Forestry and Fire Protection (CAL FIRE) provides a basic level of wildland fire prevention and protection services.

Local responsibility areas (LRA) include incorporated cities, cultivated agriculture lands, and portions of the desert. LRA fire protection is typically provided by city fire departments, fire protection districts, counties, and by CAL FIRE under contract to local government (CAL FIRE 2019a). KCFD provides fire protection and emergency medical services to the County. CAL FIRE uses an extension of the SRA Fire Hazard Severity Zone model as the basis for evaluating fire hazard in LRAs. The local responsibility area hazard rating reflects flame and ember intrusion from adjacent wildlands and from flammable vegetation in the urban area. Fire Hazard Severity Zones (FHSZ) are identified by Moderate, High and Very High in an SRA, and Very High in an LRA.

The Plan Area is not in or near an SRA or LRA or lands classified as high fire hazard severity zones. Land opposite the California Aqueduct west of the Plan Area is mapped as a moderate FHSZ, as designated by CAL FIRE (CAL FIRE 2019).

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

No Impact. As demonstrated above, the Plan Area is not in or near an SRA or LRA or lands classified as high fire hazard severity zones. Additionally, the Kings County Emergency Operations Plan (EOP) was approved by the County Board of Supervisors in November 2015. Implementation of the Specific Plan would not have a significant impact on implementation of the EOP, as substantiated in Section 3.9.f, above. Therefore, no impact would occur and this impact will not be assessed in the EIR.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

No Impact. As demonstrated above, the Plan Area is not in or near an SRA or LRA or lands classified as high fire hazard severity zones.

Wildfire Hazards

Wildfires are unplanned ignitions of wildland fires and escaped prescribed fires (NPS 2019). Land opposite the California Aqueduct west of the Plan Area is mapped as a moderate FHSZ, as designated by CAL FIRE (CAL FIRE 2019). Fire hazard severity zones in wildlands are determined based on the probability of burning; estimated flame sizes expected based on fuels, slope, and expected fire weather; and the amount of firebrands (embers) expected to land on the area. The moderate FHSZ is the least severe of three FHSZ ranks: moderate,

high, and very high (CAL FIRE 2007). The moderate FHSZ west of the Plan Area is in an LRA, meaning that the County is responsible for the cost of fire protection in the area (CAL FIRE 2019). Fire protection and emergency medical services to the LRA is provided by KCFD.

The wildfire environment consists of three components: fuel, topography, and weather (LACCEO 2014). There is no wildland vegetation in, adjacent to or in proximity of the Plan Area. Landforms such as slopes and canyons speed wildfire spread (LACCEO 2014); there are no such landforms in the Plan Area. The weather most conducive to wildfire is hot and dry, with strong winds and low vegetation moisture (GEOS 2018). The climate of the San Joaquin Valley is characterized by hot summers and a long dry season lasting from late spring through autumn (SJVAPCD 2003).

Note that while debris burning (including burning of agricultural waste) is a major cause of wildfires, intentional burning of agricultural waste on farmland would only become a wildfire if the fire escaped onto wildland vegetation.

Wildfire Risks

Wildfire risk is the damage a fire can do to values at risk in the area—such as people, structures, and natural resources such as habitat or timber—under existing and future conditions (CAL FIRE 2007). There are no residents or structures in the Plan Area (see Figure 3, *Aerial Photograph*). Agriculture onsite could be damaged by a wildfire.

Development pursuant to the Specific Plan would not add wildland vegetation to the Plan Area. Development would also not change site topography (such as adding large slopes) so as to exacerbate wildfire spread. Development would also not result in a change to the weather of the Plan Area or surrounding area.

Therefore, development would not exacerbate wildfire hazards in the Plan Area. While development pursuant to the Specific Plan would add people and structures that could be at risk from a wildfire, development would not exacerbate wildfire risks onsite. Thus, implementation of the Specific Plan would not expose project occupants to pollutant concentrations from a wildfire or uncontrolled spread of wildfire. No impact would occur and this impact will not be assessed in the EIR.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

No Impact. As demonstrated above, the Plan Area is not in or near an SRA or LRA or lands classified as high fire hazard severity zones. Additionally, Specific Plan development would involve installation and maintenance of infrastructure including roads and power lines. Installation of such infrastructure would not exacerbate wildfire risks; see the analysis of impacts to wildfire risks above in Section 3.20.b. Therefore, no impact would occur and this impact will not be assessed in the EIR.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact. As demonstrated above, the Plan Area is not in or near an SRA or LRA or lands classified as high fire hazard severity zones. Development accommodated by the Specific Plan would not exacerbate wildfire hazards onsite, as substantiated above in Section 3.20.b. Therefore, development would not expose people or structures downslope or downstream from the Plan Area to substantial risks resulting from wildfires, such as flooding or landslides. No impact would occur and this impact will not be assessed in the EIR.

3.21 MANDATORY FINDINGS OF SIGNIFICANCE

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Potentially Significant Impact. Implementation of the Specific Plan has the potential to degrade the quality of the environment, reduce the habitat of a plant or wildlife species, cause a plant or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of California history or prehistory. The EIR will analyze these topics in greater detail to determine whether the Specific Plan would generate any significant impacts.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

Potentially Significant Impact. The Specific Plan would involve the development of the Plan Area. As detailed in this Initial Study, several topical areas would have potentially significant environmental impacts pursuant to development that would be accommodated by the Specific Plan. Due to the amount and type of development would be accommodated by the Specific Plan, it also has the potential to result in cumulative impacts (e.g., air quality, GHG) that would affect the human environment. Further analysis is needed in the EIR to evaluate the Specific Plan's cumulative impacts in association with other current and reasonably foreseeable future projects.

c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?

Potentially Significant Impact. Development pursuant to the Specific Plan could create direct and indirect adverse effects on humans. The Specific Plan has the potential to affect humans through impacts related to air quality, cultural resources, geology and soils, greenhouse gas emissions, hydrology and water quality, and noise.

The significance of these potential impacts will be analyzed in the EIR.

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Appendix B NOP Comment Letters

Appendices

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RECEIVED
SEP 30 2019
KINGS COUNTY COMMUNITY DEVELOPMENT AGENCY

September 26, 2019

Chuck Kinney
Kings County
1400 West Lacey Boulevard
Hanford, California 93230

Subject: Jackson Ranch Specific Plan (Project)
NOTICE OF PREPARATION
State Clearinghouse No. 2019080497

Dear Mr. Kinney:

The California Department of Fish and Wildlife (CDFW) received a Notice of Preparation (NOP) from the Kings County Community Development Agency for the above-referenced Project pursuant the California Environmental Quality Act (CEQA) and CEQA Guidelines.[1]

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, CDFW appreciates the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through exercise of its own regulatory authority under the Fish and Game Code.

CDFW ROLE

CDFW is California's **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statute for all the people of the State (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a)). CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (*Id.*, § 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

[1] CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

CDFW is also submitting comments as a **Responsible Agency** under CEQA (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, construction associated with the Project may be subject to CDFW's lake and streambed alteration regulatory authority (Fish & G. Code, § 1600 *et seq.*). Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 *et seq.*), related authorization as provided by the Fish and Game Code will be required.

Fully Protected Species: CDFW has jurisdiction over fully protected species of birds, mammals, amphibians, reptiles, and fish, pursuant to Fish and Game Code §§ 3511, 4700, 5050, and 5515. CDFW prohibits and cannot authorize take of any fully protected species.

Nesting Birds: CDFW has jurisdiction over actions with potential to result in the disturbance or destruction of active nest sites or the unauthorized take of birds. Fish and Game Code sections that protect birds, their eggs and nests include sections 3503 (regarding unlawful take, possession or needless destruction of the nest or eggs of any bird), 3503.5 (regarding the take, possession or destruction of any birds-of-prey or their nests or eggs), and 3513 (regarding unlawful take of any migratory nongame bird).

PROJECT DESCRIPTION SUMMARY

Proponent: Utica J.L.J. LLC

Objective: The proposed project consists of the development and implementation of a specific plan for approximately 425 acres along Interstate-5 (I-5) at the Utica Avenue off-ramp. A total of just under 2.5 million square feet of commercial space is planned for 142 acres of the Plan Area. Approximately 207 acres is proposed to be designated for agriculture. Additionally, approximately 56 acres are designated for agricultural use with an air strip overlay, and 15 acres are designated for public streets. A 5-acre area has been set aside for public utility uses, including a wastewater treatment plant.

Location: The project is located in an unincorporated area of Kings County adjacent to and west of I-5 at the Utica off-ramp. Utica Avenue forms the northern Plan Area boundary, the southbound I-5 on-ramp forms the northeastern boundary, and I-5 forms the eastern boundary. A portion of the western Plan Area boundary abuts the California Aqueduct, and 25th Avenue bisects it from north to south.

Timeframe: Unspecified

COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations below to assist Kings County Community Development Agency in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources. Editorial comments or other suggestions may also be included to improve the document.

I. Environmental Setting and Related Impact

CDFW understands that a biological resources technical report (BRTR) will be prepared to analyze the Project's potential impacts to biological resources and to help inform the subsequent Environmental Impact Report (EIR) for the Jackson Ranch Specific Plan. Having reviewed the general Project area map, CDFW is concerned that resultant ground-disturbing activities could impact special-status species. CDFW recommends that the BRTR evaluate potential impacts to species including, but not limited to, the State and federally endangered and State fully protected blunt-nosed leopard lizard (*Gambelia sila*), the State threatened and federally endangered San Joaquin kit fox (*Vulpes marotis mutica*), the State threatened Swainson's hawk (*Buteo swainsoni*), the State threatened San Joaquin antelope squirrel (*Ammospermophilus nelsoni*), and the State species of special concern burrowing owl (*Athene cunicularia*). CDFW is available for consultation prior to the drafting of the EIR to discuss the BRTR findings and potential mitigation measures.

COMMENT 1: Special-status species

Issue: The Project area supports a variety of habitat and community types, upon which numerous special-status, threatened, and endangered species depend (CDFW 2019). Ground- and vegetation-disturbing activities have the potential to result in take of special-status species. Unauthorized take of species listed as threatened, endangered, or rare pursuant to CESA or the Native Plant Protection Act is a violation of Fish and Game Code.

Specific impact: Without appropriate avoidance and minimization measures for the special-status species mentioned above, potential significant impacts associated with the Project include burrow or den collapse, nest destruction, inadvertent entrapment, reduced reproductive success, reduction in health and vigor of eggs and/or young, and direct mortality of individuals. Potential impacts to special-status plant species include inability to reproduce and direct mortality.

Evidence impact would be significant: The San Joaquin Valley supports a high number of narrowly distributed endemic species (USFWS 1998). Habitat loss resulting from development is among the primary threats to special-status species in

the greater San Joaquin Valley. In fact, less than 5% of the Valley floor remains undeveloped. As a result, ground-disturbance resulting from development of the Project has the potential to impact habitat that supports special-status species, which may result in significant impacts to local populations of these species.

Recommended Potentially Feasible Mitigation Measure(s)

To evaluate potential Project-related impacts to special-status species, CDFW recommends conducting the following assessment of the Project area, including the following mitigation measures, and requiring them as conditions of approval in the Project's EIR.

Recommended Mitigation Measure 1: Habitat Assessment

CDFW recommends that a qualified biologist conduct a habitat assessment, well in advance of Project implementation, to determine if the Project area or its immediate vicinity contain habitat suitable to support special-status plant or animal species, including, but not limited to, those mentioned above.

Recommended Mitigation Measure 2: Species-Specific Surveys

If suitable habitat is present, CDFW recommends assessing presence/absence of special-status species by conducting surveys following recommended protocols or protocol-equivalent surveys. Recommended protocols vary by species and/or taxa. More information on survey and monitoring protocols for sensitive species can be found at CDFW's website (https://www.wildlife.ca.gov/Conservation/Survey-Protocols). Given the Project location and without a completed habitat assessment for the Project site, CDFW recommends the following protocols at a minimum:

- Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Communities (CDFW 2018)
- Approved Survey Methodology for the Blunt-nosed Leopard Lizard (CDFG 2004)
- Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (SWHA TAC 2000)
- Staff Report on Burrowing Owl Mitigation (CDFG 2012)

CDFW also recommends that surveys for San Joaquin Antelope Squirrel are conducted at the Project site based on existing information. CDFW does not have a recommended protocol for this species but is available to consult on any proposed survey methods. In addition, CDFW recommends consultation with CDFW before

conducting any blunt-nosed leopard lizard surveys given their fully protected status and the limited duration that CDFW may concur with survey results.

Recommended Mitigation Measure 3: Take Avoidance

Detection of special-status plant or animal species within or in the vicinity of individual project areas, warrants consultation with CDFW to discuss how to implement ground-disturbing activities and avoid take. CDFW prohibits and cannot authorize take, incidental or otherwise, of any fully protected species. Therefore, detection of fully protected species requires full avoidance.

Recommended Mitigation Measure 4: Take Authorization

In the case of State-listed species, detection warrants consultation with CDFW to discuss how to avoid take, or if take avoidance is not feasible, to acquire an Incidental Take Permit (ITP) prior to ground-disturbing activities, pursuant to Fish and Game Code § 2081(b).

II. Editorial Comments and/or Suggestions

Federally Listed Species: CDFW recommends consulting with the United States Fish and Wildlife Service (USFWS) on potential impacts to federally listed species. Take under the Federal Endangered Species Act (FESA) is more broadly defined than CESA; take under FESA also includes significant habitat modification or degradation that could result in death or injury to a listed species by interfering with essential behavioral patterns such as breeding, foraging, or nesting. Consultation with the USFWS in order to comply with FESA is advised well in advance of any ground disturbing activities.

Nesting birds: CDFW encourages Project implementation occur during the bird non-nesting season. However, if ground-disturbing activities must occur during the breeding season (February through mid-September), the Project's applicant is responsible for ensuring that implementation of the Project does not result in violation of the Migratory Bird Treaty Act or relevant Fish and Game Codes as referenced above.

To evaluate Project-related impacts on nesting birds, CDFW recommends that a qualified wildlife biologist conduct pre-activity surveys for active nests no more than 10 days prior to the start of ground disturbance to maximize the probability that nests that could potentially be impacted are detected. CDFW also recommends that surveys cover a sufficient area around the work site to identify nests and determine their status. A sufficient area means any area potentially affected by the Project. In addition to direct impacts (i.e. nest destruction), noise, vibration, and movement of workers or equipment could also affect nests. Prior to initiation of construction activities, CDFW recommends a qualified biologist conduct a survey to establish a behavioral baseline of all identified

nests. Once construction begins, CDFW recommends a qualified biologist continuously monitor nests to detect behavioral changes resulting from the Project. If behavioral changes occur, CDFW recommends the work causing that change cease and CDFW consulted for additional avoidance and minimization measures.

If continuous monitoring of identified nests by a qualified wildlife biologist is not feasible, CDFW recommends a minimum no-disturbance buffer of 250 feet around active nests of non-listed bird species and a 500-foot no-disturbance buffer around active nests of non-listed raptors. These buffers are advised to remain in place until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival. Variance from these no-disturbance buffers is possible when there is compelling biological or ecological reason to do so, such as when the construction area would be concealed from a nest site by topography. CDFW recommends that a qualified wildlife biologist advise and support any variance from these buffers and notify CDFW in advance of implementing a variance.

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database that may be used to make subsequent or supplemental environmental determinations (Pub. Resources Code, § 21003, subd. (e)). Accordingly, please report any special status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDB). The CNDDB field survey form can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Submitting-Data. The completed form can be mailed electronically to CNDDB at the following email address: CNDDB@wildlife.ca.gov. The types of information reported to CNDDB can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Plants-and-Animals.

FILING FEES

The Project, as proposed, has the potential to impact fish and/or wildlife, and assessment of filing fees may be necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089).

CONCLUSION

CDFW appreciates the opportunity to comment on the NOP to assist Kings County Community Development Agency in identifying and mitigating subsequent project's impacts on biological resources.

Questions regarding this letter or further coordination should be directed to Jennifer Giannetta, Environmental Scientist, at the address provided on this letterhead, by telephone at (559) 243-4014 extension 216, or by electronic mail at Jennifer.Giannetta@wildlife.ca.gov.

Sincerely,



Julie A. Vance
Regional Manager

ec: Office of Planning and Research
state.clearinghouse@opr.ca.gov

REFERENCES

California Department of Fish and Game (CDFG), 2004. Approved Survey Methodology for the Blunt-nosed Leopard Lizard. California Department of Fish and Game, May 2004.

CDFG, 2012. Staff Report on Burrowing Owl Mitigation. California Department of Fish and Game. March 7, 2012.

California Department of Fish and Wildlife (CDFW), 2018. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities. California Department of Fish and Wildlife, March 2018.

CDFW, 2019. Biogeographic Information and Observation System (BIOS). https://www.wildlife.ca.gov/Data/BIOS. Accessed September 10, 2019.

SWHA TAC, 2000. Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in the Central Valley of California. Swainson's Hawk Technical Advisory Committee. May 31, 2000.

U. S. Fish and Wildlife Service, 1998. Recovery Plan for Upland Species of the San Joaquin Valley, California. Region 1, Portland, OR. 319 pp.

Comment letter from:

Department of California Highway Patrol

Comment Letters

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State of California—Transportation Agency GAVIN NEWSOM, Governor

DEPARTMENT OF CALIFORNIA HIGHWAY PATROL
125 South Sixth Street
Coalinga, CA 93210
(559) 935-2093
(800) 735-2929 (TT/TDD)
(800) 735-2922 (Voice)

September 26, 2019

RECEIVED
SEP 30 2019
PLANNING & DEVELOPMENT SERVICES
KINGS COUNTY

File No.: 495.14612.15753.Jackson Ranch.Kings County

Kings County
1400 West Lacey Boulevard, Building 6
Hanford, CA 93230
Attention: Chuck Kinney, Deputy Director of Planning

The California Highway Patrol (CHP) recently received the "Notice of Completion" environmental document for the Jackson Ranch Specific Plan, SCH #2019080497. The CHP is the primary agency which provides traffic law enforcement, safety and management services within this portion of unincorporated of Kings County. As a result of this project, we anticipate local CHP operations will be impacted.

The Jackson Ranch site is located in a rural area of southwestern Kings County which is primarily agricultural land. Though Interstate-5 (I-5) has a dedicated exit (Utica Avenue) at this location, the on and off ramps are not used for ingress/egress of any businesses or destination locations. As such, the freeway exit does not currently have traffic lights or cloverleaf style on ramps to mitigate traffic congestion.

The Jackson Ranch site will likely draw numerous travelers to include tour buses and heavy trucks. The increased traffic to the area will be accompanied by changes in traffic congestion patterns as well as an increase in traffic collisions. With its current configuration, traffic exiting northbound I-5 at Utica Avenue will be required to yield to traffic accessing northbound I-5 from the site. During peak hours, traffic using the exit could back up into the northbound traffic lanes of I-5 causing rear end type collisions. Similarly, the traffic exiting southbound I-5 at Utica Avenue will be required to yield to traffic entering the site. During peak business hours, traffic using the exit could back up into the southbound traffic lanes of I-5 causing rear end type collisions.

The Coalinga Area is comprised of 24 patrol officers and a shared communications center located in the city of Fresno which services four geographically separate Area offices within the San Joaquin Valley. This project could have a negative impact on Coalinga Area operations due to the increased traffic congestion, and additional enforcement demands.

If you have any questions regarding this information, please contact Sergeant Jay Adams at (559) 935-2093.

Sincerely,

R. M. BRUNELL, Lieutenant
Commander
Coalinga Area

Comment letter from:

California Department of Conservation

Comment Letters

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September 24, 2019

VIA EMAIL: CHUCK.KINNEY@CO.KINGS.CA.US
Chuck Kinney, Deputy Director of Planning
Kings County
1400 W. Lacey Boulevard, Building #6
Hanford, CA 93230

RECEIVED
SEP 27 2019
KINGS COUNTY COMMUNITY DEVELOPMENT AGENCY

Dear Mr. Kinney:

NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE JACKSON RANCH SPECIFIC PLAN, SCH# 2019080497

The Department of Conservation's (Department) Division of Land Resource Protection (Division) has reviewed the Notice of Preparation of a Draft Environmental Impact Report for the Jackson Ranch Specific Plan. The Division monitors farmland conversion on a statewide basis and administers the Williamson Act and other agricultural land conservation programs. We offer the following comments and recommendations with respect to the proposed project's potential impacts on agricultural land and resources.

Project Description

The proposed project consists of the development and implementation of a specific plan for approximately 425 acres along Interstate 5 at the existing Utica Avenue off-ramp in unincorporated Kings County. A total of just under 2.5 million square feet of commercial space is planned for approximately 142 acres of the area covered by the Specific Plan. Approximately 207 acres is to be designated for agricultural use, and an additional 56 acres is to be designated as agricultural use with an overlay for a potential future airstrip. Approximately 15 acres are designated for public streets, and 5 acres has been set aside for public utility uses, including a wastewater treatment plant.

The project area is located in an unincorporated area of Kings County, consisting of 425 acres adjacent to and west of Interstate 5 at the Utica Avenue off-ramp. The area covered by the Specific Plan is approximately 70 miles northwest of the City of Bakersfield and 70 miles southwest of the City of Fresno.

Onsite land uses primarily consist of active and fallow agricultural land or rangeland. Approximately 50 percent of the project site is Prime Farmland as defined by the Department of Conservation's Farmland Mapping and Monitoring Program.[1]

[1] Department of Conservation, Farmland Mapping and Monitoring Program, California Important Farmland Finder, 2019, https://maps.conservation.ca.gov/DLRP/CIFF/

Department Comments

The conversion of agricultural land represents a permanent reduction and significant impact to California's agricultural land resources. Under CEQA, a lead agency should not approve a project if there are feasible alternatives or feasible mitigation measures available that would lessen the significant effects of the project.[2] All mitigation measures that are potentially feasible should be included in the Draft Environmental Impact Report (DEIR). A measure brought to the attention of the lead agency should not be left out unless it is infeasible based on its elements.

Agricultural conservation easements on land of at least equal quality and size can mitigate the project impacts in accordance with CEQA Guideline § 15370. The Department highlights agricultural conservation easements because of their acceptance and use by lead agencies as an appropriate mitigation measure under CEQA. Agricultural conservation easements are an available mitigation tool and should always be considered; however, any other feasible mitigation measures should also be considered.

Conclusion

The Department recommends the following discussion under the Agricultural Resources section of the DEIR:

- Type, amount, and location of farmland conversion resulting directly and indirectly from implementation of the proposed project.
- Impacts on any current and future agricultural operations in the vicinity; e.g., land-use conflicts, increases in land values and taxes, loss of agricultural support infrastructure such as processing facilities, etc.
- Incremental impacts leading to cumulative impacts on agricultural land.
- Proposed mitigation measures for all potentially impacted agricultural lands.

Thank you for giving us the opportunity to comment on the Notice of Preparation of a Draft Environmental Impact Report for the Jackson Ranch Specific Plan. Please provide this Department with notices of any future hearing dates as well as any staff reports pertaining to this project. If you have any questions regarding our comments, please contact Farl Grundy, Environmental Planner at (916) 324-7347 or via email at Farl.Grundy@conservation.ca.gov.

Sincerely,

Monique Wilber
Conservation Program Support Supervisor

[2] Public Resources Code section 21002.

Comment letter from:

California Department of Water Resources

Comment Letters

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DEPARTMENT OF WATER RESOURCES
1416 NINTH STREET, P.O. BOX 942836
SACRAMENTO, CA 94236-0001
(916) 653-5791

September 30, 2019

VIA EMAIL

Chuck Kinney
Deputy Director of Planning
Kings County
1400 West Lacey Boulevard, Building 6
Hanford, California 93230

RE: SCH# 2019080497 Jackson Ranch Specific Plan Initial Study

Dear Mr. Kinney:

The Division of Operations and Maintenance of the California Department of Water Resources (DWR) staff has reviewed the initial study for the proposed Jackson Ranch Specific Plan. DWR appreciates the opportunity to provide comments at this time, especially considering portions of the proposed project may encroach on a DWR drainage easement.

Section 1.1 - Project Location explains the proposed plan's western boundary abuts the California Aqueduct. The California Aqueduct is maintained by DWR's Division of Operations and Maintenance. In order to operate and maintain the California Aqueduct at this location, DWR holds drainage easements east of the California Aqueduct and within the proposed plan location. Considering DWR approval is required for activities and improvements within the easements, DWR requests Section 2, Environmental checklist number 10 Other Public Agencies Whose Approval is Required (e.g., permits, financial approval, or participation agreements) be amended to include the California Department of Water Resources.

In addition, please provide DWR with a copy of any subsequent environmental documentation with regards to the Plan when they become available for public review. Please send the document to:

Leroy Ellinghouse, Chief
State Water Project Right-of-Way Management Section
Division of Operations and Maintenance
California Department of Water Resources
1416 Ninth Street, Room 641-1
Sacramento, California 95814

If you have any questions, please contact Jonathan Canuela at (916) 653-5095 or Leroy Ellinghouse at (916) 653-7168.

Sincerely,

Nancy Finch, Senior Staff Attorney
Office of the Chief Counsel
Department of Water Resources
1416 Ninth Street, Room 1118
Sacramento, California 95814
Phone (916) 653-6840
Fax (916) 653-0952
Nancy.Finch@water.ca.gov

Comment letter from:

Native American Heritage Commission

Comment Letters

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NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691 Phone: (916) 373-3710
Email: nahc@nahc.ca.gov
Website: http://www.nahc.ca.gov

RECEIVED
SEP 16 2019
KINGS COUNTY COMMUNITY DEVELOPMENT AGENCY

September 10, 2019

Chuck Kinney
Kings County
1400 W. Lacey Blvd.
Hanford, CA 93230

RE: SCH# 2019080497, Jackson Ranch Specific Plan Project, Kings County

Dear Mr. Kinney:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP) for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements**. If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:
   a. A brief description of the project.
   b. The lead agency contact information.
   c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
   d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).
   a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:
   a. Alternatives to the project.
   b. Recommended mitigation measures.
   c. Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:
   a. Type of environmental review necessary.
   b. Significance of the tribal cultural resources.
   c. Significance of the project's impacts on tribal cultural resources.
   d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:
   a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
   b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:
    a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
    b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:
    a. Avoidance and preservation of the resources in place, including, but not limited to:
        i. Planning and construction to avoid the resources and protect the cultural and natural context.
        ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
    b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
        i. Protecting the cultural character and integrity of the resource.
        ii. Protecting the traditional use of the resource.
        iii. Protecting the confidentiality of the resource.
    c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
    d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).
    e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).
    f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
    a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.
    b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
    c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
    a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
    b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
    a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
    b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
    c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Staff Services Analyst

cc: State Clearinghouse

Comment letter from:

Pacific Gas and Electric Company

Comment Letters

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Pacific Gas and Electric Company

Plan Review Team
Land Management

PGEPlanReview@pge.com

6111 Bollinger Canyon Road 3370A
San Ramon, CA 94583

August 29, 2019

Chuck Kinney
County of Kings, Planning Dept
1400 W Lacey Blvd, Bldg 6
Hanford, CA 93230

Ref: Gas and Electric Transmission and Distribution

Dear Mr. Kinney,

Thank you for submitting the Jackson Ranch Specific Plans for our review. PG&E will review the submitted plans in relationship to any existing Gas and Electric facilities within the project area. If the proposed project is adjacent/or within PG&E owned property and/or easements, we will be working with you to ensure compatible uses and activities near our facilities.

Attached you will find information and requirements as it relates to Gas facilities (Attachment 1) and Electric facilities (Attachment 2). Please review these in detail, as it is critical to ensure your safety and to protect PG&E's facilities and its existing rights.

Below is additional information for your review:

1. This plan review process does not replace the application process for PG&E gas or electric service your project may require. For these requests, please continue to work with PG&E Service Planning: https://www.pge.com/en_US/business/services/building-and-renovation/overview/overview.page.

2. If the project being submitted is part of a larger project, please include the entire scope of your project, and not just a portion of it. PG&E's facilities are to be incorporated within any CEQA document. PG&E needs to verify that the CEQA document will identify any required future PG&E services.

3. An engineering deposit may be required to review plans for a project depending on the size, scope, and location of the project and as it relates to any rearrangement or new installation of PG&E facilities.

Any proposed uses within the PG&E fee strip and/or easement, may include a California Public Utility Commission (CPUC) Section 851 filing. This requires the CPUC to render approval for a conveyance of rights for specific uses on PG&E's fee strip or easement. PG&E will advise if the necessity to incorporate a CPUC Section 851filing is required.

This letter does not constitute PG&E's consent to use any portion of its easement for any purpose not previously conveyed. PG&E will provide a project specific response as required.

Sincerely,

Plan Review Team
Land Management

Attachment 1 – Gas Facilities

There could be gas transmission pipelines in this area which would be considered critical facilities for PG&E and a high priority subsurface installation under California law. Care must be taken to ensure safety and accessibility. So, please ensure that if PG&E approves work near gas transmission pipelines it is done in adherence with the below stipulations. Additionally, the following link provides additional information regarding legal requirements under California excavation laws: http://usanorth811.org/wp-content/uploads/2017/05/CA-LAW-English.pdf

1. Standby Inspection: A PG&E Gas Transmission Standby Inspector must be present during any demolition or construction activity that comes within 10 feet of the gas pipeline. This includes all grading, trenching, substructure depth verifications (potholes), asphalt or concrete demolition/removal, removal of trees, signs, light poles, etc. This inspection can be coordinated through the Underground Service Alert (USA) service at 811. A minimum notice of 48 hours is required. Ensure the USA markings and notifications are maintained throughout the duration of your work.

2. Access: At any time, PG&E may need to access, excavate, and perform work on the gas pipeline. Any construction equipment, materials, or spoils may need to be removed upon notice. Any temporary construction fencing installed within PG&E's easement would also need to be capable of being removed at any time upon notice. Any plans to cut temporary slopes exceeding a 1:4 grade within 10 feet of a gas transmission pipeline need to be approved by PG&E Pipeline Services in writing PRIOR to performing the work.

3. Wheel Loads: To prevent damage to the buried gas pipeline, there are weight limits that must be enforced whenever any equipment gets within 10 feet of traversing the pipe.

Ensure a list of the axle weights of all equipment being used is available for PG&E's Standby Inspector. To confirm the depth of cover, the pipeline may need to be potholed by hand in a few areas.

Due to the complex variability of tracked equipment, vibratory compaction equipment, and cranes, PG&E must evaluate those items on a case-by-case basis prior to use over the gas pipeline (provide a list of any proposed equipment of this type noting model numbers and specific attachments).

No equipment may be set up over the gas pipeline while operating. Ensure crane outriggers are at least 10 feet from the centerline of the gas pipeline. Transport trucks must not be parked over the gas pipeline while being loaded or unloaded.

4. Grading: PG&E requires a minimum of 36 inches of cover over gas pipelines (or existing grade if less) and a maximum of 7 feet of cover at all locations. The graded surface cannot exceed a cross slope of 1:4.

5. Excavating: Any digging within 2 feet of a gas pipeline must be dug by hand. Note that while the minimum clearance is only 12 inches, any excavation work within 24 inches of the edge of a pipeline must be done with hand tools. So to avoid having to dig a trench entirely with hand tools, the edge of the trench must be over 24 inches away. (Doing the math for a 24 inch wide trench being dug along a 36 inch pipeline, the centerline of the trench would need to be at least 54 inches [24/2 + 24 + 36/2 = 54] away, or be entirely dug by hand.)

Water jetting to assist vacuum excavating must be limited to 1000 psig and directed at a 40° angle to the pipe. All pile driving must be kept a minimum of 3 feet away.

Any plans to expose and support a PG&E gas transmission pipeline across an open excavation need to be approved by PG&E Pipeline Services in writing PRIOR to performing the work.

6. Boring/Trenchless Installations: PG&E Pipeline Services must review and approve all plans to bore across or parallel to (within 10 feet) a gas transmission pipeline. There are stringent criteria to pothole the gas transmission facility at regular intervals for all parallel bore installations.

For bore paths that cross gas transmission pipelines perpendicularly, the pipeline must be potholed a minimum of 2 feet in the horizontal direction of the bore path and a minimum of 12 inches in the vertical direction from the bottom of the pipe with minimum clearances measured from the edge of the pipe in both directions. Standby personnel must watch the locator trace (and every ream pass) the path of the bore as it approaches the pipeline and visually monitor the pothole (with the exposed transmission pipe) as the bore traverses the pipeline to ensure adequate clearance with the pipeline. The pothole width must account for the inaccuracy of the locating equipment.

7. Substructures: All utility crossings of a gas pipeline should be made as close to perpendicular as feasible (90° +/- 15°). All utility lines crossing the gas pipeline must have a minimum of 12 inches of separation from the gas pipeline. Parallel utilities, pole bases, water line 'kicker blocks', storm drain inlets, water meters, valves, back pressure devices or other utility substructures are not allowed in the PG&E gas pipeline easement.

If previously retired PG&E facilities are in conflict with proposed substructures, PG&E must verify they are safe prior to removal. This includes verification testing of the contents of the facilities, as well as environmental testing of the coating and internal surfaces. Timelines for PG&E completion of this verification will vary depending on the type and location of facilities in conflict.

8. Structures: No structures are to be built within the PG&E gas pipeline easement. This includes buildings, retaining walls, fences, decks, patios, carports, septic tanks, storage sheds, tanks, loading ramps, or any structure that could limit PG&E's ability to access its facilities.

9. Fencing: Permanent fencing is not allowed within PG&E easements except for perpendicular crossings which must include a 16 foot wide gate for vehicular access. Gates will be secured with PG&E corporation locks.

10. Landscaping: Landscaping must be designed to allow PG&E to access the pipeline for maintenance and not interfere with pipeline coatings or other cathodic protection systems. No trees, shrubs, brush, vines, and other vegetation may be planted within the easement area. Only those plants, ground covers, grasses, flowers, and low-growing plants that grow unsupported to a maximum of four feet (4') in height at maturity may be planted within the easement area.

11. Cathodic Protection: PG&E pipelines are protected from corrosion with an "Impressed Current" cathodic protection system. Any proposed facilities, such as metal conduit, pipes,

service lines, ground rods, anodes, wires, etc. that might affect the pipeline cathodic protection system must be reviewed and approved by PG&E Corrosion Engineering.

12. Pipeline Marker Signs: PG&E needs to maintain pipeline marker signs for gas transmission pipelines in order to ensure public awareness of the presence of the pipelines. With prior written approval from PG&E Pipeline Services, an existing PG&E pipeline marker sign that is in direct conflict with proposed developments may be temporarily relocated to accommodate construction work. The pipeline marker must be moved back once construction is complete.

13. PG&E is also the provider of distribution facilities throughout many of the areas within the state of California. Therefore, any plans that impact PG&E's facilities must be reviewed and approved by PG&E to ensure that no impact occurs which may endanger the safe operation of its facilities.

Attachment 2 – Electric Facilities

It is PG&E's policy to permit certain uses on a case by case basis within its electric transmission fee strip(s) and/or easement(s) provided such uses and manner in which they are exercised, will not interfere with PG&E's rights or endanger its facilities. Some examples/restrictions are as follows:

1. Buildings and Other Structures: No buildings or other structures including the foot print and eave of any buildings, swimming pools, wells or similar structures will be permitted within fee strip(s) and/or easement(s) areas. PG&E's transmission easement shall be designated on subdivision/parcel maps as "**RESTRICTED USE AREA – NO BUILDING."**

2. Grading: Cuts, trenches or excavations may not be made within 25 feet of our towers. Developers must submit grading plans and site development plans (including geotechnical reports if applicable), signed and dated, for PG&E's review. PG&E engineers must review grade changes in the vicinity of our towers. No fills will be allowed which would impair ground-to-conductor clearances. Towers shall not be left on mounds without adequate road access to base of tower or structure.

3. Fences: Walls, fences, and other structures must be installed at locations that do not affect the safe operation of PG&'s facilities. Heavy equipment access to our facilities must be maintained at all times. Metal fences are to be grounded to PG&E specifications. No wall, fence or other like structure is to be installed within 10 feet of tower footings and unrestricted access must be maintained from a tower structure to the nearest street. Walls, fences and other structures proposed along or within the fee strip(s) and/or easement(s) will require PG&E review; submit plans to PG&E Centralized Review Team for review and comment.

4. Landscaping: Vegetation may be allowed; subject to review of plans. On overhead electric transmission fee strip(s) and/or easement(s), trees and shrubs are limited to those varieties that do not exceed 15 feet in height at maturity. PG&E must have access to its facilities at all times, including access by heavy equipment. No planting is to occur within the footprint of the tower legs. Greenbelts are encouraged.

5. Reservoirs, Sumps, Drainage Basins, and Ponds: Prohibited within PG&E's fee strip(s) and/or easement(s) for electric transmission lines.

6. Automobile Parking: Short term parking of movable passenger vehicles and light trucks (pickups, vans, etc.) is allowed. The lighting within these parking areas will need to be reviewed by PG&E; approval will be on a case by case basis. Heavy equipment access to PG&E facilities is to be maintained at all times. Parking is to clear PG&E structures by at least 10 feet. Protection of PG&E facilities from vehicular traffic is to be provided at developer's expense AND to PG&E specifications. Blocked-up vehicles are not allowed. Carports, canopies, or awnings are not allowed.

7. Storage of Flammable, Explosive or Corrosive Materials: There shall be no storage of fuel or combustibles and no fueling of vehicles within PG&E's easement. No trash bins or incinerators are allowed.

8. Streets and Roads: Access to facilities must be maintained at all times. Street lights may be allowed in the fee strip(s) and/or easement(s) but in all cases must be reviewed by PG&E for

proper clearance. Roads and utilities should cross the transmission easement as nearly at right angles as possible. Road intersections will not be allowed within the transmission easement.

9. Pipelines: Pipelines may be allowed provided crossings are held to a minimum and to be as nearly perpendicular as possible. Pipelines within 25 feet of PG&E structures require review by PG&E. Sprinklers systems may be allowed; subject to review. Leach fields and septic tanks are not allowed. Construction plans must be submitted to PG&E for review and approval prior to the commencement of any construction.

10. Signs: Signs are not allowed except in rare cases subject to individual review by PG&E.

11. Recreation Areas: Playgrounds, parks, tennis courts, basketball courts, barbecue and light trucks (pickups, vans, etc.) may be allowed; subject to review of plans. Heavy equipment access to PG&E facilities is to be maintained at all times. Parking is to clear PG&E structures by at least 10 feet. Protection of PG&E facilities from vehicular traffic is to be provided at developer's expense AND to PG&E specifications.

12. Construction Activity: Since construction activity will take place near PG&E's overhead electric lines, please be advised it is the contractor's responsibility to be aware of, and observe the minimum clearances for both workers and equipment operating near high voltage electric lines set out in the High-Voltage Electrical Safety Orders of the California Division of Industrial Safety (https://www.dir.ca.gov/Title8/sb5g2.html), as well as any other safety regulations. Contractors shall comply with California Public Utilities Commission General Order 95 (http://www.cpuc.ca.gov/gos/GO95/go_95_startup_page.html) and all other safety rules. No construction may occur within 25 feet of PG&E's towers. All excavation activities may only commence after 811 protocols has been followed.

Contractor shall ensure the protection of PG&E's towers and poles from vehicular damage by (installing protective barriers) Plans for protection barriers must be approved by PG&E prior to construction.

13. PG&E is also the owner of distribution facilities throughout many of the areas within the state of California. Therefore, any plans that impact PG&E's facilities must be reviewed and approved by PG&E to ensure that no impact occurs that may endanger the safe and reliable operation of its facilities.

Comment letter from:

San Joaquin Valley Air Pollution Control District

Comment Letters

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San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

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KINGS COUNTY COMMUNITY DEVELOPMENT AGENCY

OCT 0 4 2019

Chuck Kinney
County of Kings
Community Development Agency
1400 W. Lacey Boulevard, Building #6
Hanford, CA, 93230

Project: Notice of Preparation of a Draft Environmental Impact Report for the Jackson Ranch Specific Plan and Notice of a Public Scoping Meeting

District CEQA Reference No: 20191073

Dear Mr. Kinney:

The San Joaquin Valley Unified Air Pollution Control District (District) has reviewed the Notice of Preparation for the project referenced above. The project is a 425-acre Plan Area, to serve as a service and commercial center (Project). The Jackson Specific Plan (Plan) is a program level Project and, while Project-specific data may not be available until specific approvals are being granted, the Environmental Impact Report (EIR) should include a discussion of policies, which when implemented, will reduce or mitigate impacts on air quality at the individual project level. To aid the Lead Agency in addressing project specific issues at the program level the District offers the following comments and recommendations:

Land Use Planning

1. Nearly all development projects within the San Joaquin Valley Air Basin, from general plans to individual development projects have the potential to generate air pollutants, making it more difficult to attain state and federal ambient air quality standards. Land use decisions are critical to improving air quality within the San Joaquin Valley Air Basin because land use patterns greatly influence transportation needs and motor vehicle emissions are the largest source of air pollution. Land use decisions and project design elements such as preventing urban sprawl, encouraging mix-use development, and project designs that reduce vehicle miles traveled (VMT) have proven benefit for air quality. The District recommends that the South Industrial Area Specific Plan include or incorporate by reference, policies that will reduce or mitigate VMT impacts to the extent feasible. VMT can be reduced through encouragement of

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Executive Director/Air Pollution Control Officer

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mixed-use development, walkable communities, etc. Recommended design elements can be found on the District's website at: http://www.valleyair.org/ISR/ISROnSiteMeasures.htm.

To aid agencies in addressing VMT impacts the District has prepared the following guidance documents: *Air Quality Guidelines for General Plans*, and *AB 170 Requirements for General Plans*. These documents provide general information and recommendations for policies that are effective in reducing impacts from growth and development projects. These documents are available on the District's web site at: http://www.valleyair.org/transportation/Guidelines_for_General_Plans.htm.

Emissions Analysis

1) At the federal level for the National Ambient Air Quality Standards (NAAQS), the District is currently designated as extreme nonattainment for the 8-hour ozone standards; serious nonattainment for the PM2.5 standards; and attainment for PM10 and CO standards. At the state level, the District is currently designated as nonattainment for the 8-hour ozone, PM10, and PM2.5 California Ambient Air Quality Standards (CAAQS). The District recommends that the Air Quality section of an Environmental Impact Report (EIR) include a discussion of the following impacts:

   a) **Criteria Pollutants:** Project related criteria pollutant emissions should be identified and quantified. The discussion should include existing and post-project emissions.

      i) Construction Emissions: Construction emissions are short-term emissions and should be evaluated separately from operational emissions. For reference, the District's annual criteria thresholds of significance for construction are: 100 tons per year of carbon monoxide (CO), 10 tons per year of oxides of nitrogen (NOx), 10 tons per year of reactive organic gases (ROG), 27 tons per year of oxides of sulfur (SOx), 15 tons per year of particulate matter of 10 microns or less in size (PM10), or 15 tons per year of particulate matter of 2.5 microns or less in size (PM2.5).

         - *Recommended Measure:* To reduce impacts from construction related exhaust emissions, the District recommends the cleanest reasonably available off-road construction fleets, as set forth in §2423 of Title 13 of the California Code of Regulations, and Part 89 of Title 40 Code of Federal Regulations.

      ii) Operational Emissions: Permitted (stationary sources) and non-permitted (mobile sources) sources should be analyzed separately. For reference, the annual criteria thresholds of significance for operation of permitted and non-permitted sources each are: 100 tons per year of carbon monoxide (CO), 10 tons per year of oxides of nitrogen (NOx), 10 tons per year of reactive organic

gases (ROG), 27 tons per year of oxides of sulfur (SOx), 15 tons per year of particulate matter of 10 microns or less in size (PM10), or 15 tons per year of particulate matter of 2.5 microns or less in size (PM2.5).

- *Recommended Measure:* Project related impacts on air quality can be reduced through incorporation of design elements, for example, that increase energy efficiency, reduce vehicle miles traveled, and reduce operational related emissions. More information on mitigation measures can be found at: http://www.valleyair.org/transportation/ceqa_idx.htm.

iii) Recommended Model: Project related criteria pollutant emissions from construction and operation non-permitted (limited to equipment not subject to District permits) should be identified and quantified. Emissions analysis should be performed using CalEEMod (**Cal**ifornia **E**mission **E**stimator **Mod**el), which uses the most recent approved version of relevant Air Resources Board (ARB) emissions models and emission factors. CalEEMod is available to the public and can be downloaded from the CalEEMod website at: www.caleemod.com.

iv) Future development from the proposed Project could have a significant impact on regional air quality. As such, the District recommends the EIR also include a discussion on the feasibility of implementing a Voluntary Emission Reduction Agreement (VERA) for this project. A VERA is a mitigation measure by which the project proponent provides pound-for-pound mitigation of emissions increases through a process that develops, funds, and implements emission reduction projects, with the District serving a role of administrator of the emissions reduction projects and verifier of the successful mitigation effort. To implement a VERA, the project proponent and the District enter into a contractual agreement in which the project proponent agrees to mitigate project specific emissions by providing funds for the District's incentives programs). The funds are disbursed by the District in the form of grants for projects that achieve emission reductions. Thus, project-specific regional impacts on air quality can be fully mitigated. Types of emission reduction projects that have been funded in the past include electrification of stationary internal combustion engines (such as agricultural irrigation pumps), replacing old heavy-duty trucks with new, cleaner, more efficient heavy-duty trucks, and replacement of old farm tractors.

In implementing a VERA, the District verifies the actual emission reductions that have been achieved as a result of completed grant contracts, monitors the emission reduction projects, and ensures the enforceability of achieved reductions. After the project is mitigated, the District certifies to the lead agency that the mitigation is completed, providing the lead agency with an enforceable mitigation measure demonstrating that project-specific regional emissions have been mitigated to less than significant. To assist the Lead Agency and project

proponent in ensuring that the environmental document is compliant with CEQA, the District recommends the environmental document includes an assessment of the feasibility of implementing a VERA.

b) **Nuisance Odors:** The Project should be evaluated to determine the likelihood that the Project would result in nuisance odors. Nuisance orders are subjective, thus the District has not established thresholds of significance for nuisance odors. Nuisance odors may be assessed qualitatively taking into consideration of project design elements and proximity to off-site receptors that potentially would be exposed objectionable odors.

c) **Health Risk Screening/Assessment:** A Health Risk Screening/Assessment identifies potential Toxic Air Contaminants (TAC's) impact on surrounding sensitive receptors such as hospitals, daycare centers, schools, work-sites, and residences. TAC's are air pollutants identified by the Office of Environmental Health Hazard Assessment/California Air Resources Board (OEHHA/CARB) (https://www.arb.ca.gov/toxics/healthval/healthval.htm) that pose a present or potential hazard to human health. A common source of TACs can be attributed to diesel exhaust emitted from both mobile and stationary sources.

The District recommends the Project be evaluated for potential health impacts to surrounding receptors (on-site and off-site) resulting from operational and multi-year construction TAC emissions.

i) The District recommends conducting a screening analysis that includes all sources of emissions. A screening analysis is used to identify projects which may have a significant health impact. A prioritization, using CAPCOA's updated methodology, is the recommended screening method. A prioritization score of 10 or greater is considered to be significant and a refined Health Risk Assessment (HRA) should be performed. For your convenience, the District's prioritization calculator can be found at: http:www.valleyair.org/busind/pto/emission_factors/Criteria/Toxics/Utilities/PRIORITIZATION%20RMR%202016.XLS.

ii) The District recommends a refined HRA for projects that result in a prioritization score of 10 or greater. Prior to performing an HRA, it is recommended that the Project proponent contact the District to review the proposed modeling protocol. The Project would be considered to have a significant health risk if the HRA demonstrates that the Project related health impacts would exceed the Districts significance threshold of 20 in a million for carcinogenic risk and 1.0 for the Acute and Chronic Hazard Indices, and would trigger all feasible mitigation measures. The District recommends that Projects that result in a significant health risk not be approved.

For HRA submittals, please provide the following information electronically to the District for review:

- HRA AERMOD model files
- HARP2 files
- Summary of emissions source locations, emissions rates, and emission factor calculations and methodology.

More information on toxic emission factors, prioritizations and HRAs can be obtained by:

- E-Mailing inquiries to: hramodeler@valleyair.org; or
- The District can be contacted at (559) 230-6000 for assistance; or
- Visiting the Districts website (Modeling Guidance) at: http://www.valleyair.org/busind/pto/Tox_Resources/AirQualityMonitoring.htm.

d) **Ambient Air Quality Analysis:** An ambient air quality analysis (AAQA) uses air dispersion modeling to determine if emissions increases from a project will cause or contribute to a violation of the ambient air quality standards. The District recommends that an AAQA be performed for the Project if emissions exceed 100 pounds per day of any pollutant.

If an AAQA is performed, the analysis should include emissions from both Project specific permitted and non-permitted equipment and activities. The District recommends consultation with District staff to determine the appropriate model and input data to use in the analysis. Specific information for assessing significance, including screening tools and modeling guidance is available online at the District's website at: www.valleyair.org/ceqa.

2) In addition to the discussions on potential impacts identified above, the District recommends the EIR also include the following discussions:

a) A discussion of the methodology, model assumptions, inputs and results used in characterizing the Project's impact on air quality. To comply with CEQA requirements for full disclosure, the District recommends that the modeling outputs be provided as appendices to the EIR. The District further recommends that the District be provided with an electronic copy of all input and output files for all modeling.

b) A discussion of the components and phases of the Project and the associated emission projections, including ongoing emissions from each previous phase.

c) A discussion of Project design elements and mitigation measures, including characterization of the effectiveness of each mitigation measure incorporated into the Project.

i) The following policies/mitigation measures are recommended to reduce or mitigate impacts from criteria pollutant emissions:

(1) Use of off-road construction fleets that can achieve fleet average emissions equal to or less than the Tier III emission standards, as set forth in §2423 of Title 13 of the California Code of Regulations, and Part 89 of Title 40 Code of Federal Regulations. Therefore, the District recommends incorporating, as a condition of Project approval, a requirement that off-road construction equipment used on site be the cleanest reasonably available as set forth in state and federal regulations.

(2) For projects exceeding the applicability thresholds identified in Section 2.0 of District Rule 9510, a condition of Project approval requiring demonstration of compliance with Rule 9510, prior to the issuance of grading and/or building permits.

(3) For projects subject to District permitting requirements, demonstration of compliance with District Rule 2201, such as a copy of the Authority to Construct (ATC), before issuance of the first building permit, be made a condition of project approval.

ii) The following policies/mitigation measures are recommended to mitigate potential health impacts of individual projects:

(1) Development projects resulting in toxic air contaminant emissions will be located an adequate distance from residential areas and other sensitive receptors in accordance to ARB's *Air Quality and Land Use Handbook: A Community Health Perspective.*

(2) A health risk screening and/or assessment will be performed to assess potential risks to sensitive receptors for the following projects:

(3) Projects whose proposed locations are within the established buffer distances identified in ARB's handbook;

(4) Projects whose land uses are not specifically identified in ARB's handbook (such as shopping centers), but there is sufficient information to reasonably conclude that sensitive receptors would be exposed to significant sources of toxic air contaminants; and

(5) Projects that would otherwise appear to be exempt from CEQA requirements, but there is sufficient information to reasonably conclude that sensitive receptors would be exposed to significant sources of toxic air contaminants, such as industrial use projects allowed by right.

d) A discussion of whether the Project would result in a cumulatively considerable net increase of any criteria pollutant or precursor for which the San Joaquin Valley Air Basin is in non-attainment. More information on the District's attainment status can be found online by visiting the District's website at: http://valleyair.org/aqinfo/attainment.htm.

e) As required by the recent decision in *Sierra Club v. County of Fresno* (2018) 6 Cal.4th 502, a reasonable effort to discuss relevant specifics regarding the connection between potential adverse air quality impacts from the Project with the likely nature and magnitude of potential health impacts. If the potential health impacts from the Project cannot be specifically correlated, explain what is known and why, given scientific constraints, potential health impacts cannot be translated.

District Rules and Regulations

3) The purpose of District Rule 9510 (Indirect Source Review) is to reduce the growth in both NOx and PM10 emissions associated with development and transportation projects from mobile and area sources associated with construction and operation of development projects. The rule encourages clean air design elements to be incorporated into the development project. In case the proposed project clean air design elements are insufficient to meet the targeted emission reductions, the rule requires developers to pay a fee used to fund projects to achieve off-site emissions reductions.

   Accordingly, future individual development project(s) within the Project would be subject to District Rule 9510 if:

   - Upon full build-out, the project would receive a project-level discretionary approval from a public agency and would equal or exceed any one of the applicability thresholds below:

     - 50 dwelling units
     - 2,000 square feet of commercial space;
     - 25,000 square feet of light industrial space;
     - 100,000 square feet of heavy industrial space;
     - 20,000 square feet of medical office space;
     - 39,000 square feet of general office space; or
     - 9,000 square feet of educational space; or
     - 10,000 square feet of government space; or
     - 20,000 square feet of recreational space; or
     - 9,000 square feet of space not identified above

   - Or would equal or exceed any of the applicability thresholds in section 2.2 of the rule.

District Rule 9510 also applies to any transportation or transit development projects where construction exhaust emissions equal or exceed two (2.0) tons of NOx or two (2.0) tons of PM10.

In the case the individual development project(s) are subject to District Rule 9510, an Air Impact Assessment (AIA) application is required and the District recommends that demonstration of compliance with District Rule 9510, before issuance of the first building permit, be made a condition of Project approval. Information about how to comply with District Rule 9510 can be found online at: http://www.valleyair.org/ISR/ISRHome.htm.

The AIA application form can be found online at: http://www.valleyair.org/ISR/ISRFormsAndApplications.htm.

District staff is available to provide assistance with determining if future individual development projects will be subject to Rule 9510, and can be reached by phone at (559) 230-6000 or by email at ISR@valleyair.org.

4) Particulate Matter 2.5 microns or less in size (PM2.5) from under-fired charbroilers pose immediate health risk. Since the cooking of meat can release carcinogenic PM2.5 species like polycyclic aromatic hydrocarbons, controlling emissions from under-fired charbroilers will have a substantial positive impact on public health.

Charbroiling emissions occur in populated areas, near schools and residential neighborhoods, resulting in high exposure levels for sensitive Valley residents. The air quality impacts on neighborhoods near restaurants with under-fired charbroilers can be significant on days when meteorological conditions are stable, when dispersion is limited and emissions are trapped near the surface within the surrounding neighborhoods. This potential for neighborhood-level concentration of emissions during evening or multi-day stagnation events raises environmental concerns.

Furthermore, the latest photochemical modeling indicates that reducing commercial charbroiling emissions is critical to achieving attainment of multiple federal PM2.5 standards and associated health benefits in the Valley. Using new survey and registration information, the District is pursuing reductions in commercial underfired charbroiler emissions through an incentive-based approach to fund the installation of new controls for commercial underfired charbroilers within urban boundaries in Fresno, Kern, and Madera counties, with a future year regulatory requirement to encourage participation by Valley businesses.

Therefore, the District strongly recommends new restaurants that will operate under-fired charbroilers contact and work with the District to assess the feasibility of installing charbroiler emission control systems during the construction phase. Installing emissions control systems during construction of new facilities is likely to result in substantial economic benefit compared to costly retrofitting. To ease the financial

burden for Valley businesses that wish to install control equipment before it is required by District Rule 4692 (Commercial Charbroiling), the District is currently offering substantial incentive funding that covers the full cost of purchasing, installing, and maintaining the system for up to two years. Please contact the District at (559) 230-5800 or technology@valleyair.org for more information.

3) Future individual development projects may also be subject to District regulations including, but limited to: Regulation VIII (Fugitive PM10 Prohibitions), District Rule 2010 (Permits Required), Rule 2201 (New and Modified Stationary Source Review), Rule 4002 (National Emission Standards for Hazardous Air Pollutants), Rule 4102 (Nuisance), Rule 4601 (Architectural Coatings), and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations). To avoid potential delays in project development, the District strongly encourages project proponents to contact the District's Small Business Assistance (SBA) Office early in the planning phase to discuss whether an Authority to Construct (ATC) and Permit to Operate (PTO) are required, and to identify other District rules or regulations that apply to their project.

   The District recommends that a mitigation measure be included that requires, for any project within the scope of this EIR that is subject to District permits, demonstration of compliance with District permitting requirements, such as a copy of the ATC, before issuance of the first building permit, be made a condition of project approval.

4) Future individual development projects may be subject to District Rule 9410 (Employer Based Trip Reduction) if the Project would result in employment of 100 or more "eligible" employees. District Rule 9410 requires employers with 100 or more "eligible" employees at a worksite to establish an Employer Trip Reduction Implementation Plan (eTRIP) that encourages employees to reduce single-occupancy vehicle trips, thus reducing pollutant emissions associated with work commutes. Under an eTRIP plan, employers have the flexibility to select the options that work best for their worksites and their employees. Information about how District Rule 9410 can be found online at: www.valleyair.org/tripreduction.htm. For additional information, you can contact the District by phone at 559-230-6000 or by e-mail at etrip@valleyair.org.

5) The above list of rules is neither exhaustive nor exclusive. To identify other District rules or regulations that apply to this Project or to obtain information about District permit requirements, the applicant is strongly encouraged to contact the District's Small Business Assistance (SBA) Office at (559) 230-5888. Current District rules can be found online at the District's website at: www.valleyair.org/rules/1ruleslist.htm.

The District recommends that a copy of the District's comments be provided to the Project proponent. If you have any questions or require further information, please call Eric McLaughlin at (559) 230-5808.

Sincerely,

Arnaud Marjollet
Director of Permit Services

for Brian Clements
Program Manager

AM: em

Comment letter from:

State Water Resources Control Board

Comment Letters

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CALIFORNIA
Water Boards

RECEIVED
SEP 27 2019
KINGS COUNTY COMMUNITY
DEVELOPMENT AGENCY

GAVIN NEWSOM
GOVERNOR

JARED BLUMENFELD
SECRETARY FOR
ENVIRONMENTAL PROTECTION

State Water Resources Control Board

Division of Drinking Water

September 25, 2019

Mr. Chuck Kinney
Kings County
1400 West Lacey Boulevard
Hanford, CA 93230

JACKSON RANCH SPECIFIC PLAN SCH# 2019080497 COMMENTS: SENATE BILL 1263 REQUIREMENTS

Dear Mr. Kinney:

The Board received a copy of the Jackson Ranch Specific Plan Initial Study and Notice of Preparation (Specific Plan) dated August 2019. The State Water Resources Control Board Division of Drinking Water (Board) has reviewed the Specific Plan. The proposed project meets the definition of a public water system.

Senate Bill 1263 requires that before a person submits an application for a permit for a proposed new public water system, the person shall first submit a preliminary technical report to the Board at least six months before initiating construction of any water-related improvement.

If the project decides to obtain a domestic water supply permit a Preliminary Technical Report must be submitted and include a full analysis of each of the required elements in Section 116527 of the California Health and Safety Code provided below.

(1) The name of each community water system for which any service area boundary is within three miles, as measured through existing public rights-of-way, of any boundary of the applicant's proposed public water system's service area.

(2) A discussion of the feasibility of each of the adjacent community water systems identified pursuant to paragraph (1) annexing, connecting, or otherwise supplying domestic water to the applicant's proposed new public water system's service area. The applicant shall consult with each adjacent public water system in preparing the report and shall include in the report any information provided by each adjacent public water system regarding the feasibility of annexing, connecting, or otherwise supplying domestic water to that service area.

(3) A discussion of all actions taken by the applicant to secure a supply of domestic water from an existing community water system for the proposed new public water system's service area.

(4) All sources of domestic water supply for the proposed new public water system.

(5) The estimated cost to construct, operate, and maintain the proposed new public water system, including long-term operation and maintenance costs and a potential rate structure.

(6) A comparison of the costs associated with the construction, operation and maintenance, and long-term sustainability of the proposed new public water system to the costs associated with providing water to the proposed new public water system's service area through annexation by, consolidation with, or connection to an existing public water system.

(7) A discussion of all actions taken by the applicant to pursue a contract for managerial or operational oversight from an existing public water system.

(8) An analysis of whether a proposed new public water system's total projected water supplies available during normal, single dry, or multiple dry water years during a 20- year projection will meet the projected water demand for the service area.

(9) Any information provided by the local agency formation commission. The applicant shall consult with the local agency formation commission if any adjacent public water system identified pursuant to paragraph (1) is a local agency as defined by Section 56054 of the Government Code.

If the applicant decides to connect to an existing community water system, the completion of the Preliminary Technical Report and the subsequent permit application materials are not required. Additional information including an SB 1263 FAQ and Preliminary Technical Report Guidance can be found at https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Permits.html.

If you have any questions regarding the information contained in this letter, please contact Shawn Demmers at (559) 447-3136 or email dwpdist12@waterboards.ca.gov.

Sincerely,

Chad Fischer, P.E.
Senior Sanitary Engineer, Visalia District
SOUTHERN CALIFORNIA BRANCH
DRINKING WATER FIELD OPERATIONS

CJF/SD

Appendix C Air Quality and GHG Background and Modeling Data

Appendices

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1. Criteria Air Pollutant and GHG Emissions Worksheets

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Phase 1 Regional Construction Emissions Worksheet (Annual) - Unmitigated

Annual Emissions (Tons/Yr)

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Roadways						
2021	0.1339	0.5114	0.5638	1.06E-03	0.0542	0.0308
Wastewater Treatment Facility						
2021	0.1226	0.9959	0.9361	2.08E-03	0.1555	0.0846
Water Pipelines						
2021	0.1115	0.3072	0.2651	6.60E-04	0.0535	0.0193
Project Site						
2021	0.5779	5.0661	4.2054	0.0112	1.0869	0.5205
2022	0.5398	4.1594	4.3967	0.0139	0.8422	0.3034
2023	1.5512	2.5662	3.1466	9.64E-03	0.5774	0.2063

Combined Annual Emissions (Tons/Yr)

		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
	2021	0.9459	6.8806	5.9704	0.0150	1.3501	0.6552
	2022	0.5398	4.1594	4.3967	0.0139	0.8422	0.3034
	2023	1.5512	2.5662	3.1466	0.0096	0.5774	0.2063
Max Annual Emissions		2	7	6	0	1	1
Regional Thresholds		**10**	**10**	**100**	**27**	**15**	**15**
Exceed Thresholds?		No	No	No	No	No	No

Full Buildout Regional Construction Emissions Worksheet (Annual) - Unmitigated

Annual Emissions (Tons/Yr)

		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Phase 1							
			Roadways				
	2021	0.1339	0.5114	0.5638	1.06E-03	0.0542	0.0308
			Wastewater Treatment Facility				
	2021	0.1226	0.9959	0.9361	2.08E-03	0.1555	0.0846
			Water Pipelines				
	2021	0.1115	0.3072	0.2651	6.60E-04	0.0535	0.0193
			Project Site				
	2021	0.5779	5.0661	4.2054	0.0112	1.0869	0.5205
	2022	0.5398	4.1594	4.3967	0.0139	0.8422	0.3034
	2023	1.5512	2.5662	3.1466	9.64E-03	0.5774	0.2063
Phase 2							
			Roadways				
	2024	0.1026	0.6717	0.8948	1.68E-03	0.1046	0.0404
			Project Site				
	2024	19.5489	18.4705	21.3283	0.0781	7.5797	2.8005
	2025	1.6741	11.3505	12.6332	0.0588	4.8302	1.3766
	2026	1.5075	10.2343	11.1692	0.0557	4.1399	1.1787
	2027	1.4417	10.0892	10.5807	0.0546	4.1389	1.1778
	2028	1.3696	9.9286	10.0345	0.0536	4.1217	1.172
	2029	1.3067	9.8502	9.5941	0.053	4.1363	1.1754
	2030	1.2287	9.1518	9.1622	0.0528	4.0856	1.1289
	2031	1.1559	9.0561	8.7371	0.0522	4.0845	1.1279
	2032	1.0943	9.0055	8.3999	0.0519	4.0992	1.1313
	2033	1.0274	8.8617	8.0153	0.0511	4.067	1.1218
	2034	0.9813	8.7996	7.7289	0.0508	4.0661	1.121
	2035	0.934	8.682	7.5163	0.507	4.0735	1.1171
	2036	0.5976	5.5551	4.8093	0.0324	2.6064	0.7148

Combined Annual Emissions (Tons/Yr)

		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
	2021	0.9459	6.8806	5.9704	0.0150	1.350	0.655
	2022	0.5398	4.1594	4.3967	0.0139	0.842	0.303
	2023	1.5512	2.5662	3.1466	0.0096	0.577	0.206
	2024	19.652	19.142	22.223	0.080	7.684	2.841
	2025	1.674	11.351	12.633	0.059	4.830	1.377
	2026	1.508	10.234	11.169	0.056	4.140	1.179
	2027	1.442	10.089	10.581	0.055	4.139	1.178
	2028	1.370	9.929	10.035	0.054	4.122	1.172
	2029	1.307	9.850	9.594	0.053	4.136	1.175
	2030	1.229	9.152	9.162	0.053	4.086	1.129
	2031	1.156	9.056	8.737	0.052	4.085	1.128
	2032	1.094	9.006	8.400	0.052	4.099	1.131
	2033	1.027	8.862	8.015	0.051	4.067	1.122
	2034	0.981	8.800	7.729	0.051	4.066	1.121
	2035	0.934	8.682	7.516	0.507	4.074	1.117
	2036	0.598	5.555	4.809	0.032	2.606	0.715
Max Annual Emissions		20	19	22	1	8	3
Regional Thresholds		**10**	**10**	**100**	**27**	**15**	**15**
Exceed Thresholds?		Yes	Yes	No	No	No	No

Regional Operational Emissions Worksheet: Phase 1 Opening Year 2023

Regional Emission (Tons/Yr)

Annual	**ROG**	**NOx**	**CO**	**SO2**	**PM10 Total**	**PM2.5 Total**
Area	0.7960	0.0001	0.0101	0.0000	0.0000	0.0000
Energy	0.0343	0.3113	0.2615	0.0019	0.0237	0.0237
Mobile - Passenger	3.6049	3.3867	32.3469	0.0908	10.2049	2.7514
Mobile - Trucks	2.9354	251.7099	32.7505	1.2933	42.5252	13.5697
Total	7.3706	255.4080	65.3690	1.3860	52.7538	16.3448
Regional Thresholds	**10**	**10**	**100**	**27**	**15**	**15**
Exceeds Thresholds?	No	Yes	No	No	Yes	Yes

Ambient Air Quality Analysis (lbs/day)

Annual Operational Days: 365

Max Daily	**ROG**	**NOx**	**CO**	**SO2**	**PM10 Total**	**PM2.5 Total**
Area	1,592.0000	0.1800	20.2000	0.0000	0.0800	0.0800
Energy	68.6000	622.6000	523.0000	3.7400	47.4000	47.4000
Mobile - Passenger	7,209.8000	6,773.4000	64,693.8000	181.6000	20,409.8000	5,502.8000
Mobile - Trucks	5,870.8000	503,419.8000	65,501.0000	2,586.6000	85,050.4000	27,139.4000
Total	14,741.2000	510,815.9800	130,738.0000	2,771.9400	105,507.6800	32,689.6800
Maximum Daily Emissions	40.39	1,399.50	358.19	7.59	289.06	89.56
SJVAPCD Ambient Air Quality Screening Thresholds	**100**	**100**	**100**	**100**	**100**	**100**
Exceeds Thresholds?	No	Yes	Yes	No	Yes	No

Regional Operational Emissions Worksheet: Full Buildout Year 2040

Regional Emission (Tons/Yr)

Annual	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
	Phase 1					
Area	0.796	0.000	0.010	0.000	0.000	0.000
Energy	0.034	0.311	0.262	0.002	0.024	0.024
Mobile - Passenger	1.698	1.147	19.788	0.063	10.155	2.712
Mobile - Trucks	2.784	231.065	31.766	0.972	42.331	13.379
Total	5.312	232.523	51.825	1.037	52.510	16.115
	Phase 2					
Area	11.015	0.000	0.022	0.000	0.000	0.000
Energy	0.157	1.431	1.202	0.009	0.109	0.109
Mobile - Passenger	0.599	0.217	3.201	0.005	0.657	0.176
Mobile - Trucks	1.662	145.894	18.564	0.619	27.080	8.559
Transport Refrigeration Units	0.476	3.245	5.690	0.001	0.077	0.071
Off-Road Equipment	0.022	43.316	432.925	0.003	0.005	0.005
Total	13.932	194.103	461.604	0.637	27.927	8.919
	Combined					
Area	11.811	0.000	0.032	0.000	0.000	0.000
Energy	0.192	1.743	1.464	0.010	0.133	0.133
Mobile - Passenger	2.297	1.364	22.989	0.068	10.812	2.888
Mobile - Trucks	4.446	376.959	50.330	1.591	69.411	21.938
Transport Refrigeration Units	0.476	3.245	5.690	0.001	0.077	0.071
Off-Road Equipment	0.022	43.316	432.925	0.003	0.005	0.005
Total	19.244	426.627	513.430	1.673	80.438	25.034
Regional Thresholds	**10**	**10**	**100**	**27**	**15**	**15**
Exceeds Thresholds?	Yes	Yes	Yes	No	Yes	Yes

Ambient Air Quality Analysis (lbs/day)

Annual Operational Days: 365

Max Daily	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	23,622.800	0.580	64.200	0.000	0.240	0.240
Energy	383.400	3,485.000	2,927.400	20.920	265.000	265.000
Mobile - Passenger	4,594.800	2,728.400	45,977.000	135.520	21,623.000	5,775.800
Mobile - Trucks	8,891.400	753,918.400	100,659.800	3,182.000	138,822.200	43,876.000
Transport Refrigeration Units	951.608	6,489.209	11,380.343	1.449	154.737	142.358
Total	38,444.008	766,621.589	161,008.743	3,339.889	160,865.177	50,059.398
Maximum Daily Emissions	105.33	2,100.33	441.12	9.15	440.73	137.15
SJVAPCD Ambient Air Quality Screening Thresholds	**100**	**100**	**100**	**100**	**100**	**100**
Exceeds Thresholds?	Yes	Yes	Yes	No	Yes	Yes

GHG Emissions Worksheet: Phase 1 Opening Year 2023

Proposed Project Buildout

Year		Phase 1 Roadways	WWTF	Water Pipilines	Phase 1	Phase 2 Roadways	Phase 2	Total
2021		94.69	185.47	59.54	1017.499			1,357.20
2022					1263.1705			1,263.17
2023					846.8719			846.87
	Total	**94.69**	**185.47**	**59.54**	**3,127.54**	**0.00**	**0.00**	**3,467.24**

Opening Year 2023 Emission Rates

Source	Buildout $MTCO_2e$/Year	Percent of Project Total
Area	0.02	0%
Energy - New Buildings	492.45	0%
Mobile - Passenger[1]	8,345.10	6%
Mobile - Truck[1]	124,269.25	93%
Waste	69.24	0%
Water	9.09	0%
Amortized Construction Emissions[2]	115.57	0%
Total All Sectors	***133,301***	***0%***
Assumed Bright-Line Screening Threshold	900	
Exceed Threshold?	**Yes**	

[1] Based on year 2023 emission rates.

[2] Construction emissions are amortized over a 30 year project lifetime based on the service life of a building. For buildings in general, it is reasonable to look at a 30-year time frame, since this is a typical interval before a new building requires the first major renovation. International Energy Agency (IEA), 2008, March. Energy Efficiency Requirements in Building Codes, Energy Efficiency Policies for New Buildings.

GHG Emissions Worksheet: Full Buildout Year 2040

Proposed Project Buildout

Year		Phase 1 Roadways	WWTF	Water Pipilines	Phase 1	Phase 2 Roadways	Phase 2	Total
2021		94.69	185.47	59.54	1017.499			1,357.20
2022					1263.1705			1,263.17
2023					846.8719			846.87
2024						151.3676	7148.2506	7,299.62
2025							5427.2388	5,427.24
2026							5144.1936	5,144.19
2027							5052.3651	5,052.37
2028							4953.3783	4,953.38
2029							4901.7457	4,901.75
2030							4879.1711	4,879.17
2031							4825.9638	4,825.96
2032							4799.4103	4,799.41
2033							4724.6132	4,724.61
2034							4692.411	4,692.41
2035							4683.2265	4,683.23
2036							2996.5472	2,996.55
	Total	**94.69**	**185.47**	**59.54**	**3,127.54**	**151.37**	**64,228.52**	**67,847.12**

Year 2040 Emission Rates		
Source	**Buildout $MTCO_2e$/Year**	**Percent of Project Total**
Phase 1		
Area	0.02	0.00%
Energy - New Buildings	440.77	0.44%
Mobile - Passenger[1]	5,799.73	5.82%
Mobile - Truck[1]	93,360.48	93.66%
Waste	69.24	0.07%
Water	7.68	0.01%
Total All Sectors	99,677.93	
Phase 2		
Area	0.05	0.00%
Energy - New Buildings	3,047.38	4.17%
Mobile - Passenger[1]	419.39	0.57%
Mobile - Truck[1]	59,518.66	81.38%
Transport Refrigeration Units	71.54	0.10%
Offroad Equipment	8,999.88	12.31%
Waste	1,072.36	1.47%
Water	8.43	0.01%
Total All Sectors	73,137.69	
Combined		
Area	0.07	0%
Energy - New Buildings	3,488.15	2%
Mobile - Passenger[1]	6,219.12	4%
Mobile - Truck[1]	152,879.15	87%
Transport Refrigeration Units	71.54	0%
Offroad Equipment	8,999.88	5%
Waste	1,141.60	1%
Water	16.12	0%
Amortized Construction Emissions[2]	2,261.57	1%
Total All Sectors	***175,077***	***100%***
Assumed Bright-Line Screening Threshold	900	
Exceed Threshold?	**Yes**	

[1] Based on year 2040 emission rates.

[2] Construction emissions are amortized over a 30 year project lifetime based on the service life of a building. For buildings in general, it is reasonable to look at a 30-year time frame, since this is a typical interval before a new building requires the first major renovation. International Energy Agency (IEA), 2008, March. Energy Efficiency Requirements in Building Codes, Energy Efficiency Policies for New Buildings.

Off-Road Equipment Emissions Worksheet: Forklifts (CNG)

OFFROAD2017*

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	ROG_tpd	NOx_tpd	CO_tpd	SOx_tpd	PM10_tpd	PM2_5_tpd	CO2_tpd	Fuel_gpy	Total_Activity_hpy	Total_Population
Kings (SJV)	2040	OFF - Industrial - Forklifts	Aggregated	100	Nat Gas	0	0.016521143	0.164792784	0	0	0	3.653266231	203242.95	85384.45	47.38

**OFFROAD2017, Version 1.0.1., https://www.arb.ca.gov/orion/*

Calculated Emission Rates

Total Annual Hours	85384.45	**Conversion Rate**	
Total Population	47.38	Grams/Pound	453.592
Total Hours/Unit	1802.120093		
Hours/Unit/Day	4.937315323		

	VOC	NOx	CO	SOx	PM10	PM2.5	CO2
Tons/Day	0	0.016521143	0.164792784	0	0	0	3.653266231
Pounds/Day	0	33.04228618	329.5855682	0	0	0	7306.532462
lbs/Day/Unit	***0***	***0.697388902***	***6.956217142***	***0***	***0***	***0***	***154.2113225***
lbs/hour/unit	0	0.141248605	1.408906802	0	0	0	31.23384116
lbs/min/unit	0	0.002354143	0.02348178	0	0	0	0.520564019
grams/min/unit	0	1.067820621	10.65114757	0	0	0	236.1236746
grams/sec/unit	0	0.01779701	0.177519126	0	0	0	3.935394577

Project Emissions

Number of Forklifts[1]

Fuel Type	# of Forklifts
CNG Powered	140

Daily Hours of Operation	12	hr/unit/day
Total Daily Op Hours	1,675	hours/day
Days Per Year	365	days/year

	VOC	NOx	CO	SOx	PM10	PM2.5	CO2	
				Pound Per Day				
Emission Rate (lb/hour/unit)	**0**	**0.141248605**	**1.408906802**	**0**	**0**	**0**	**31.23384116**	
Total Emissions (lb)	0.000	236.642	2360.428	0.000	0.000	0.000	52327.974	
				Tons Per Year				**CO2/MT/yr**
	0.000	43.187	430.778	0.000	0.000	0.000	9549.855	8663.482

(1) For purposes of the analysis, based on other warehousing project.

Off-Road Equipment Emissions Worksheet: Yard Trucks (Diesel)

OFFROAD2017*

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	ROG_tpd	NOx_tpd	CO_tpd	SOx_tpd	PM10_tpd	PM2_5_tpd	CO2_tpd	Fuel_gpy	Total_Activity_hpy	Total_Population
San Joaquin Valley	2040	CHE - Rail Yard Tractor	Aggregated	175	Diesel	0.000237707	0.001381074	0.023059223	3.6816E-05	5.32131E-05	4.8956E-05	3.98268875	129213.9503	40064.21876	39.60813302

**OFFROAD2017, Version 1.0.1., https://www.arb.ca.gov/orion/*

Calculated Emission Rates

Total Annual Hours	40064.21876	**Conversion Rate**	
Total Population	39.60813302	Grams/Pound	453.592
Total Hours/Unit	1011.514952		
Hours/Unit/Day	2.771273841		

	VOC	NOx	CO	SOx	PM10	PM2.5	CO2
Tons/Day	0.000237707	0.001381074	0.023059223	3.6816E-05	5.32131E-05	4.8956E-05	3.98268875
Pounds/Day	0.475414101	2.762148001	46.11844513	0.073632078	0.106426145	0.097912054	7965.3775
lbs/Day/Unit	***0.012002941***	***0.06973689***	***1.164368063***	***0.001859014***	***0.002686977***	***0.002472019***	***201.1045937***
lbs/hour/unit	0.0043312	0.0251642	0.420156264	0.000670816	0.000969582	0.000892015	72.56756471
lbs/min/unit	7.21867E-05	0.000419403	0.007002604	1.11803E-05	1.61597E-05	1.48669E-05	1.209459412
grams/min/unit	0.032743295	0.190237998	3.176325334	0.005071278	0.00732991	0.006743517	548.6011135
grams/sec/unit	0.000545722	0.003170633	0.052938756	8.45213E-05	0.000122165	0.000112392	9.143351892

Project Emissions

Number of Yard Trucks[1]

Truck Type	Trucks/Day
CNG Powered	7

Daily Hours of Operation	4	hr/unit/day
Total Daily Op Hours	28	hours/day
Days Per Year	365	days/year

	VOC	NOx	CO	SOx	PM10	PM2.5	CO2	
			Pound Per Day					
Emission Rate (lb/hour/unit)	**0.0043312**	**0.0251642**	**0.420156264**	**0.000670816**	**0.000969582**	**0.000892015**	**72.56756471**	
Total Emissions (lb)	0.121	0.705	11.764	0.019	0.027	0.025	2031.892	
			Tons Per Year					**CO2/MT/yr**
	0.022	0.129	2.147	0.003	0.005	0.005	370.820	336.402

(1) For purposes of the analysis, the 7 yard trucks would consist of 3 diesel-powered units and 4 CNG-powered units. Based on 3.6 yard trucks per million square feet of building space. 2014, June. SCAQMD High Cube Warehouse Truck Trip Study White Paper Summary of Business Survey Results. http://www.aqmd.gov/docs/default-source/ceqa/handbook/high-cube-warehouse-trip-rate-study-for-air-quality-analysis/business-survey-summary.pdf.

Transport Refrigeration Unit Emissions Summary

Mondays - Thursdays

VehClass	HP_Bin	Fuel	VOC	NOx	CO	SOx	PM10	PM2.5	CO2	CO2/MT/yr
			Pound Per Day							Tons Per Year
TRU - Instate Genset TRU	50	Diesel	0.910095	10.44705	14.18618	0.002643	0.047202	0.043426	286.349044	27.016
TRU - Instate Trailer TRU	50	Diesel	2.599454	17.7262	31.08704	0.003946	0.107111	0.098542	430.832039	40.648
TRU - Instate Truck TRU	25	Diesel	1.114652	10.81721	9.060556	0.001997	0.422687	0.388872	217.509577	20.521
TRU - Instate Van TRU	25	Diesel	0.71148	6.9046	5.783333	0.001275	0.2698	0.248216	138.8359	13.099
TRU - Out-of-State Genset TRU	50	Diesel	0.911757	10.44976	14.19934	0.002643	0.047251	0.043471	286.349044	27.016
TRU - Out-of-State Trailer TRU	50	Diesel	2.06734	16.85767	26.87264	0.003959	0.091499	0.084179	430.832039	40.648
TRU - Railcar TRU	50	Diesel	2.06734	16.85767	26.87264	0.003959	0.091499	0.084179	430.832039	40.648
		Maximum	**2.599454**	**17.7262**	**31.08704**	**0.003959**	**0.422687**	**0.388872**	**430.832039**	**40.64780031**

VehClass	HP_Bin	Fuel	VOC	NOx	CO	SOx	PM10	PM2.5	CO2
			Tons Per Year[1]						MT/Yr
TRU - Instate Genset TRU	50	Diesel	0.09465	1.086493	1.475363	0.000275	0.004909	0.004516	27.016
TRU - Instate Trailer TRU	50	Diesel	0.270343	1.843525	3.233052	0.00041	0.011139	0.010248	40.6478003
TRU - Instate Truck TRU	25	Diesel	0.115924	1.124989	0.942298	0.000208	0.043959	0.040443	20.5214214
TRU - Instate Van TRU	25	Diesel	0.073994	0.718078	0.601467	0.000133	0.028059	0.025814	13.0987796
TRU - Out-of-State Genset TRU	50	Diesel	0.094823	1.086775	1.476732	0.000275	0.004914	0.004521	27.016233
TRU - Out-of-State Trailer TRU	50	Diesel	0.215003	1.753198	2.794754	0.000412	0.009516	0.008755	40.6478003
TRU - Railcar TRU	50	Diesel	0.215003	1.753198	2.794754	0.000412	0.009516	0.008755	40.6478003
		Maximum	**0.270343**	**1.843525**	**3.233052**	**0.000412**	**0.043959**	**0.040443**	**40.6478003**

[1] *Based on 208 days (i.e., 4 days x 52 weeks).*

Fridays - Sundays

VehClass	HP_Bin	Fuel	VOC	NOx	CO	SOx	PM10	PM2.5	CO2	CO2/MT/yr
			Pound Per Day							Tons Per Year
TRU - Instate Genset TRU	50	Diesel	0.92223	10.58634	14.37533	0.002678	0.047832	0.044005	290.167031	20.532
TRU - Instate Trailer TRU	50	Diesel	2.634114	17.96255	31.50153	0.003998	0.108539	0.099856	436.576466	30.892
TRU - Instate Truck TRU	25	Diesel	1.129514	10.96144	9.181363	0.002023	0.428322	0.394057	220.409704	15.596
TRU - Instate Van TRU	25	Diesel	0.720966	6.996661	5.860444	0.001292	0.273397	0.251526	140.687045	9.955
TRU - Out-of-State Genset TRU	50	Diesel	0.923914	10.58909	14.38867	0.002678	0.047881	0.044051	290.167031	20.532
TRU - Out-of-State Trailer TRU	50	Diesel	2.094905	17.08244	27.23094	0.004011	0.092719	0.085301	436.576466	30.892
TRU - Railcar TRU	50	Diesel	2.094905	17.08244	27.23094	0.004011	0.092719	0.085301	436.576466	30.892
		Maximum	**2.634114**	**17.96255**	**31.50153**	**0.004011**	**0.428322**	**0.394057**	**436.576466**	**30.89232823**

VehClass	HP_Bin	Fuel	VOC	NOx	CO	SOx	PM10	PM2.5	CO2
			Tons Per Year[1]						MT/Yr
TRU - Instate Genset TRU	50	Diesel	0.071934	0.825735	1.121276	0.000209	0.003731	0.003432	20.532
TRU - Instate Trailer TRU	50	Diesel	0.205461	1.401079	2.457119	0.000312	0.008466	0.007789	30.8923282
TRU - Instate Truck TRU	25	Diesel	0.088102	0.854992	0.716146	0.000158	0.033409	0.030736	15.5962803
TRU - Instate Van TRU	25	Diesel	0.056235	0.54574	0.457115	0.000101	0.021325	0.019619	9.95507253
TRU - Out-of-State Genset TRU	50	Diesel	0.072065	0.825949	1.122316	0.000209	0.003735	0.003436	20.5323371
TRU - Out-of-State Trailer TRU	50	Diesel	0.163403	1.33243	2.124013	0.000313	0.007232	0.006654	30.8923282
TRU - Railcar TRU	50	Diesel	0.163403	1.33243	2.124013	0.000313	0.007232	0.006654	30.8923282
		Maximum	**0.205461**	**1.401079**	**2.457119**	**0.000313**	**0.033409**	**0.030736**	**30.8923282**

[1] *Based on 156 days (i.e., 3 days x 52 weeks).*

Combined

VehClass	HP_Bin	Fuel	VOC	NOx	CO	SOx	PM10	PM2.5	CO2
			Tons Per Year[1]						MT/Yr
TRU - Instate Genset TRU	50	Diesel	0.166584	1.912228	2.596638	0.000484	0.00864	0.007949	47.5485701
TRU - Instate Trailer TRU	50	Diesel	0.475804	3.244604	5.690171	0.000722	0.019606	0.018037	71.5401285
TRU - Instate Truck TRU	25	Diesel	0.204026	1.979982	1.658444	0.000366	0.077369	0.071179	36.1177017
TRU - Instate Van TRU	25	Diesel	0.130229	1.263818	1.058581	0.000233	0.049384	0.045433	23.0538522
TRU - Out-of-State Genset TRU	50	Diesel	0.166888	1.912724	2.599048	0.000484	0.008649	0.007957	47.5485701
TRU - Out-of-State Trailer TRU	50	Diesel	0.378406	3.085628	4.918768	0.000725	0.016748	0.015408	71.5401285
TRU - Railcar TRU	50	Diesel	0.378406	3.085628	4.918768	0.000725	0.016748	0.015408	71.5401285
		Maximum	**0.475804**	**3.244604**	**5.690171**	**0.000725**	**0.077369**	**0.071179**	**71.5401285**

Transport Refrigeration Unit Emissions Worksheet: Mondays - Thursdays

OFFROAD2017*

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	ROG_tpd	NOx_tpd	CO_tpd	SOx_tpd	PM10_tpd	PM2_5_tpd	CO2_tpd	Fuel_gpy	Total_Activity_hpy	Total_Population
Kings (SJV)	2040	TRU - Instate Genset TRU	Aggregated	50	Diesel	0.000251982	0.002892515	0.003927783	7.31676E-07	1.30691E-05	1.20236E-05	0.079282575	50.32570632	30317.6913	38.83295594

*OFFROAD2017, Version 1.0.1., https://www.arb.ca.gov/orion/

Calculated Emission Rates

Total Annual Hours	30317.6913	**Conversion Rate**	
Total Population	38.83295594	Grams/Pound	453.592
Total Hours/Unit	780.720668		
Hours/Unit/Day	2.138960734		

	VOC	NOx	CO	SOx	PM10	PM2.5	CO2
Tons/Day	0.000251982	0.002892515	0.003927783	7.31676E-07	1.30691E-05	1.20236E-05	0.079282575
Pounds/Day	0.503963281	5.785030091	7.855565988	0.001463352	0.026138221	0.024047164	158.565149
lbs/Day/Unit	***0.012977721***	***0.14897218***	***0.202291219***	***3.76832E-05***	***0.000673094***	***0.000619246***	***4.083262404***
lbs/hour/unit	0.006067302	0.069646991	0.094574536	1.76175E-05	0.000314683	0.000289508	1.908993624
lbs/min/unit	0.000101122	0.001160783	0.001576242	2.93626E-07	5.24471E-06	4.82513E-06	0.03181656
grams/min/unit	0.045867996	0.526521968	0.714970882	0.000133186	0.002378959	0.002188642	14.43173726
grams/sec/unit	0.000764467	0.008775366	0.011916181	2.21977E-06	3.96493E-05	3.64774E-05	0.240528954

Project Emissions

Number of TRUs[1]

Truck Type	Trips/Day	Trucks/Day
Medium Heavy Trucks		0
Heavy Heavy Trucks	149	75
Total	**149**	**75**

TRU Idling per Truck[2] 120 mins/truck/day
Total TRU Idling: 9,000 mins

	VOC	NOx	CO	SOx	PM10	PM2.5	CO2	CO2/MT/yr
				Pound Per Day				**Tons Per Year**
				Running				
Emission Rate (lb/day/unit)	**0.012977721**	**0.14897218**	**0.202291219**	**3.76832E-05**	**0.000673094**	**0.000619246**	**4.083262404**	
Total Emissions	0.973	11.173	15.172	0.003	0.050	0.046	306.245	50.702
				Idling				
Emission Rate (lb/min/unit)	**0.000101122**	**0.001160783**	**0.001576242**	**2.93626E-07**	**5.24471E-06**	**4.82513E-06**	**0.03181656**	
Total Emissions	0.910	10.447	14.186	0.003	0.047	0.043	286.349	47.408

(1) From TIA from Urban Crossroads (June 17, 2019). For this evaluation, Heavy-Heavy Duty Trucks (HHDT) assumed 4+/5-axle trucks and Medium-Heavy Duty Trucks (MHDT) assumed 2-4-axle trucks.

(2) TRU cycle duration assumptions from CARB's Risk Characterization Scenarios, Appendix VII for Distribution Center Scenario (October 2000). TRU's assumed cycled 25 percent of the time for two hours (i.e., 15 min every hour for two hours).

Transport Refrigeration Unit Emissions Worksheet: Mondays - Thursdays

OFFROAD2017*

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	ROG_tpd	NOx_tpd	CO_tpd	SOx_tpd	PM10_tpd	PM2_5_tpd	CO2_tpd	Fuel_gpy	Total_Activity_hpy	Total_Population
Kings (SJV)	2040	TRU - Instate Trailer TRU	Aggregated	50	Diesel	0.005227533	0.035647605	0.062516397	7.9345E-06	0.000215401	0.000198168	0.86640828	549.9645911	220205.7837	166.207724

*OFFROAD2017, Version 1.0.1., https://www.arb.ca.gov/orion/

Calculated Emission Rates

Total Annual Hours	220205.7837	**Conversion Rate**	
Total Population	166.207724	Grams/Pound	453.592
Total Hours/Unit	1324.882974		
Hours/Unit/Day	3.629816366		

	VOC	NOx	CO	SOx	PM10	PM2.5	CO2
Tons/Day	0.005227533	0.035647605	0.062516397	7.9345E-06	0.000215401	0.000198168	0.86640828
Pounds/Day	10.45506568	71.29520973	125.0327943	0.01586899	0.430801078	0.396336992	1732.816561
lbs/Day/Unit	***0.062903609***	***0.428952446***	***0.752268254***	***9.54769E-05***	***0.002591944***	***0.002384588***	***10.4256079***
lbs/hour/unit	0.017329695	0.118174696	0.207246918	2.63035E-05	0.00071407	0.000656945	2.872213591
lbs/min/unit	0.000288828	0.001969578	0.003454115	4.38392E-07	1.19012E-05	1.09491E-05	0.047870227
grams/min/unit	0.13101018	0.893384946	1.566759065	0.000198851	0.005398276	0.004966414	21.71355179
grams/sec/unit	0.002183503	0.014889749	0.026112651	3.31418E-06	8.99713E-05	8.27736E-05	0.36189253

Project Emissions

Number of TRUs[1]

Truck Type	Trips/Day	Trucks/Day
Medium Heavy Trucks	0	0
Heavy Heavy Trucks	149	75
Total	**149**	**75**

TRU Idling per Truck[2]	120	mins/truck/day
Total TRU Idling:	9,000	mins

	VOC	NOx	CO	SOx	PM10	PM2.5	CO2	CO2/MT/yr
				Pound Per Day				Tons Per Year
				Running				
Emission Rate (lb/day/unit)	**0.062903609**	**0.428952446**	**0.752268254**	**9.54769E-05**	**0.002591944**	**0.002384588**	**10.4256079**	
Total Emissions	4.718	32.171	56.420	0.007	0.194	0.179	781.921	129.456
				Idling				
Emission Rate (lb/min/unit)	**0.000288828**	**0.001969578**	**0.003454115**	**4.38392E-07**	**1.19012E-05**	**1.09491E-05**	**0.047870227**	
Total Emissions	2.599	17.726	31.087	0.004	0.107	0.099	430.832	71.329

(1) From TIA from Urban Crossroads (June 17, 2019). For this evaluation, Heavy-Heavy Duty Trucks (HHDT) assumed 4+/5-axle trucks and Medium-Heavy Duty Trucks (MHDT) assumed 2-4-axle trucks.

(2) TRU cycle duration assumptions from CARB's Risk Characterization Scenarios, Appendix VII for Distribution Center Scenario (October 2000). TRU's assumed cycled 25 percent of the time for two hours (i.e., 15 min every hour for two hours).

Transport Refrigeration Unit Emissions Worksheet: Mondays - Thursdays

OFFROAD2017*

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	ROG_tpd	NOx_tpd	CO_tpd	SOx_tpd	PM10_tpd	PM2_5_tpd	CO2_tpd	Fuel_gpy	Total_Activity_hpy	Total_Population
Kings (SJV)	2040	TRU - Instate Truck TRU	Aggregated	25	Diesel	0.0006032	0.005853785	0.004903165	1.0806E-06	0.000228739	0.00021044	0.117706395	74.71575542	59256.47234	43.53892163

**OFFROAD2017, Version 1.0.1., https://www.arb.ca.gov/orion/*

Calculated Emission Rates

Total Annual Hours	59256.47234	**Conversion Rate**	
Total Population	43.53892163	Grams/Pound	453.592
Total Hours/Unit	1361		
Hours/Unit/Day	3.728767123		

	VOC	NOx	CO	SOx	PM10	PM2.5	CO2
Tons/Day	0.0006032	0.005853785	0.004903165	1.0806E-06	0.000228739	0.00021044	0.117706395
Pounds/Day	1.206399003	11.70757092	9.806329858	0.002161196	0.457478005	0.420879765	235.4127892
lbs/Day/Unit	***0.02770852***	***0.268898964***	***0.225231344***	***4.9638E-05***	***0.01050733***	***0.00966675***	***5.40695039***
lbs/hour/unit	0.007431013	0.072114711	0.060403704	1.33122E-05	0.002817911	0.002592478	1.450063844
lbs/min/unit	0.00012385	0.001201912	0.001006728	2.21871E-07	4.69652E-05	4.3208E-05	0.024167731
grams/min/unit	0.05617747	0.545177601	0.456643946	0.000100639	0.021303032	0.01959879	10.96228932
grams/sec/unit	0.000936291	0.009086293	0.007610732	1.67731E-06	0.000355051	0.000326646	0.182704822

Project Emissions

Number of TRUs[1]

Truck Type	Trips/Day	Trucks/Day
Medium Heavy Trucks	0	0
Heavy Heavy Trucks	149	75
Total	**149**	**75**

TRU Idling per Truck[2]	120	mins/truck/day
Total TRU Idling:	9,000	mins

	VOC	NOx	CO	SOx	PM10	PM2.5	CO2	CO2/MT/yr
			Pound Per Day					Tons Per Year
				Running				
Emission Rate (lb/day/unit)	**0.027708518**	**0.268898964**	**0.225231344**	**4.96383E-05**	**0.010507334**	**0.009666748**	**5.406950387**	
Total Emissions	2.078	20.167	16.892	0.004	0.788	0.725	405.521	67.139
				Idling				
Emission Rate (lb/min/unit)	**0.00012385**	**0.001201912**	**0.001006728**	**2.21871E-07**	**4.69652E-05**	**4.3208E-05**	**0.024167731**	
Total Emissions	1.115	10.817	9.061	0.002	0.423	0.389	217.510	36.011

(1) From TIA from Urban Crossroads (June 17, 2019). For this evaluation, Heavy-Heavy Duty Trucks (HHDT) assumed 4+/5-axle trucks and Medium-Heavy Duty Trucks (MHDT) assumed 2-4-axle trucks.

(2) TRU cycle duration assumptions from CARB's Risk Characterization Scenarios, Appendix VII for Distribution Center Scenario (October 2000). TRU's assumed cycled 25 percent of the time for two hours (i.e., 15 min every hour for two hours).

Transport Refrigeration Unit Emissions Worksheet: Mondays - Thursdays

OFFROAD2017*

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	ROG_tpd	NOx_tpd	CO_tpd	SOx_tpd	PM10_tpd	PM2_5_tpd	CO2_tpd	Fuel_gpy	Total_Activity_hpy	Total_Population
Kings (SJV)	2040	TRU - Instate Van TRU	Aggregated	25	Diesel	1.39645E-05	0.000135519	0.000113512	2.50166E-08	5.29547E-06	4.87183E-06	0.002724985	1.729722041	2149.198479	1.579131873

**OFFROAD2017, Version 1.0.1., https://www.arb.ca.gov/orion/*

Calculated Emission Rates

Total Annual Hours	2149.198479	**Conversion Rate**	
Total Population	1.579131873	Grams/Pound	453.592
Total Hours/Unit	1361		
Hours/Unit/Day	3.728767123		

	VOC	NOx	CO	SOx	PM10	PM2.5	CO2
Tons/Day	1.39645E-05	0.000135519	0.000113512	2.50166E-08	5.29547E-06	4.87183E-06	0.002724985
Pounds/Day	0.027928981	0.271038462	0.227023401	5.00332E-05	0.010590936	0.009743661	5.449970866
lbs/Day/Unit	***0.01768629***	***0.171637637***	***0.143764688***	***3.1684E-05***	***0.00670681***	***0.00617026***	***3.45124493***
lbs/hour/unit	0.0047432	0.046030667	0.038555556	8.49718E-06	0.001798667	0.001654773	0.925572666
lbs/min/unit	7.90533E-05	0.000767178	0.000642593	1.4162E-07	2.99778E-05	2.75796E-05	0.015426211
grams/min/unit	0.03585796	0.347985703	0.291474859	6.42375E-05	0.01359768	0.012509866	6.997205947
grams/sec/unit	0.000597633	0.005799762	0.004857914	1.07063E-06	0.000226628	0.000208498	0.116620099

Project Emissions

Number of TRUs[1]

Truck Type	Trips/Day	Trucks/Day
Medium Heavy Trucks	0	0
Heavy Heavy Trucks	149	75
Total	**149**	**75**

TRU Idling per Truck[2]	120	mins/truck/day
Total TRU Idling:	9,000	mins

	VOC	NOx	CO	SOx	PM10	PM2.5	CO2	CO2/MT/yr
			Pound Per Day					Tons Per Year
				Running				
Emission Rate (lb/day/unit)	**0.017686288**	**0.171637637**	**0.143764688**	**3.1684E-05**	**0.006706809**	**0.006170264**	**3.451244928**	
Total Emissions	1.326	12.873	10.782	0.002	0.503	0.463	258.843	42.854
				Idling				
Emission Rate (lb/min/unit)	**7.90533E-05**	**0.000767178**	**0.000642593**	**1.4162E-07**	**2.99778E-05**	**2.75796E-05**	**0.015426211**	
Total Emissions	0.711	6.905	5.783	0.001	0.270	0.248	138.836	22.986

(1) From TIA from Urban Crossroads (June 17, 2019). For this evaluation, Heavy-Heavy Duty Trucks (HHDT) assumed 4+/5-axle trucks and Medium-Heavy Duty Trucks (MHDT) assumed 2-4-axle trucks.

(2) TRU cycle duration assumptions from CARB's Risk Characterization Scenarios, Appendix VII for Distribution Center Scenario (October 2000). TRU's assumed cycled 25 percent of the time for two hours (i.e., 15 min every hour for two hours).

Transport Refrigeration Unit Emissions Worksheet: Mondays - Thursdays

OFFROAD2017*

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	ROG_tpd	NOx_tpd	CO_tpd	SOx_tpd	PM10_tpd	PM2_5_tpd	CO2_tpd	Fuel_gpy	Total_Activity_hpy	Total_Population
Kings (SJV)	2040	TRU - Out-of-State Genset TRU	Aggregated	50	Diesel	0.00015907	0.001823126	0.0024773	4.61042E-07	8.24371E-06	7.58421E-06	0.049958109	31.71159757	19104.00263	154.5082189

*OFFROAD2017, Version 1.0.1., https://www.arb.ca.gov/orion/

Calculated Emission Rates

Total Annual Hours	19104.00263	**Conversion Rate**	
Total Population	154.5082189	Grams/Pound	453.592
Total Hours/Unit	123.643925		
Hours/Unit/Day	0.338750479		

	VOC	NOx	CO	SOx	PM10	PM2.5	CO2
Tons/Day	0.00015907	0.001823126	0.0024773	4.61042E-07	8.24371E-06	7.58421E-06	0.049958109
Pounds/Day	0.318140954	3.646251593	4.954599418	0.000922083	0.016487421	0.015168427	99.91621701
lbs/Day/Unit	***0.002059055***	***0.023599079***	***0.032066899***	***5.96786E-06***	***0.000106709***	***9.81723E-05***	***0.646672505***
lbs/hour/unit	0.006078383	0.069665078	0.094662298	1.76173E-05	0.000315008	0.000289807	1.908993624
lbs/min/unit	0.000101306	0.001161085	0.001577705	2.93621E-07	5.25013E-06	4.83012E-06	0.03181656
grams/min/unit	0.045951766	0.5266587	0.71563435	0.000133184	0.002381416	0.002190903	14.43173726
grams/sec/unit	0.000765863	0.008777645	0.011927239	2.21974E-06	3.96903E-05	3.65151E-05	0.240528954

Project Emissions

Number of TRUs[1]

Truck Type	Trips/Day	Trucks/Day
Medium Heavy Trucks	0	0
Heavy Heavy Trucks	149	75
Total	**149**	**75**

TRU Idling per Truck[2]	120	mins/truck/day
Total TRU Idling:	9,000	mins

	VOC	NOx	CO	SOx	PM10	PM2.5	CO2	CO2/MT/yr
				Pound Per Day				Tons Per Year
				Running				
Emission Rate (lb/day/unit)	**0.002059055**	**0.023599079**	**0.032066899**	**5.96786E-06**	**0.000106709**	**9.81723E-05**	**0.646672505**	
Total Emissions	0.154	1.770	2.405	0.000	0.008	0.007	48.500	8.030
				Idling				
Emission Rate (lb/min/unit)	**0.000101306**	**0.001161085**	**0.001577705**	**2.93621E-07**	**5.25013E-06**	**4.83012E-06**	**0.03181656**	
Total Emissions	0.912	10.450	14.199	0.003	0.047	0.043	286.349	47.408

(1) From TIA from Urban Crossroads (June 17, 2019). For this evaluation, Heavy-Heavy Duty Trucks (HHDT) assumed 4+/5-axle trucks and Medium-Heavy Duty Trucks (MHDT) assumed 2-4-axle trucks.

(2) TRU cycle duration assumptions from CARB's Risk Characterization Scenarios, Appendix VII for Distribution Center Scenario (October 2000). TRU's assumed cycled 25 percent of the time for two hours (i.e., 15 min every hour for two hours).

Transport Refrigeration Unit Emissions Worksheet: Mondays - Thursdays

OFFROAD2017*

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	ROG_tpd	NOx_tpd	CO_tpd	SOx_tpd	PM10_tpd	PM2_5_tpd	CO2_tpd	Fuel_gpy	Total_Activity_hpy	Total_Population
Kings (SJV)	2040	TRU - Out-of-State Trailer TRI	Aggregated	50	Diesel	0.002608353	0.021269244	0.033905079	4.99469E-06	0.000115444	0.000106208	0.543578739	345.0440926	138155.6304	658.4366

**OFFROAD2017, Version 1.0.1., https://www.arb.ca.gov/orion/*

Calculated Emission Rates

Total Annual Hours	138155.6304	**Conversion Rate**	
Total Population	658.4366	Grams/Pound	453.592
Total Hours/Unit	209.8237407		
Hours/Unit/Day	0.574859564		

	VOC	NOx	CO	SOx	PM10	PM2.5	CO2
Tons/Day	0.002608353	0.021269244	0.033905079	4.99469E-06	0.000115444	0.000106208	0.543578739
Pounds/Day	5.216706994	42.53848823	67.81015813	0.009989389	0.23088753	0.212416527	1087.157478
lbs/Day/Unit	***0.007922869***	***0.064605291***	***0.102986617***	***1.51714E-05***	***0.00035066***	***0.000322607***	***1.651119452***
lbs/hour/unit	0.013782269	0.112384477	0.179150916	2.63914E-05	0.000609993	0.000561193	2.872213591
lbs/min/unit	0.000229704	0.001873075	0.002985849	4.39857E-07	1.01665E-05	9.35322E-06	0.047870227
grams/min/unit	0.104192115	0.849611658	1.354357037	0.000199516	0.004611465	0.004242548	21.71355179
grams/sec/unit	0.001736535	0.014160194	0.022572617	3.32526E-06	7.68577E-05	7.07091E-05	0.36189253

Project Emissions

Number of TRUs[1]

Truck Type	Trips/Day	Trucks/Day
Medium Heavy Trucks	0	0
Heavy Heavy Trucks	149	75
Total	**149**	**75**

TRU Idling per Truck[2]	120	mins/truck/day
Total TRU Idling:	9,000	mins

	VOC	NOx	CO	SOx	PM10	PM2.5	CO2	CO2/MT/yr
				Pound Per Day				**Tons Per Year**
				Running				
Emission Rate (lb/day/unit)	**0.007922869**	**0.064605291**	**0.102986617**	**1.51714E-05**	**0.00035066**	**0.000322607**	**1.651119452**	
Total Emissions	0.594	4.845	7.724	0.001	0.026	0.024	123.834	20.502
				Idling				
Emission Rate (lb/min/unit)	**0.000229704**	**0.001873075**	**0.002985849**	**4.39857E-07**	**1.01665E-05**	**9.35322E-06**	**0.047870227**	
Total Emissions	2.067	16.858	26.873	0.004	0.091	0.084	430.832	71.329

(1) From TIA from Urban Crossroads (June 17, 2019). For this evaluation, Heavy-Heavy Duty Trucks (HHDT) assumed 4+/5-axle trucks and Medium-Heavy Duty Trucks (MHDT) assumed 2-4-axle trucks.

(2) TRU cycle duration assumptions from CARB's Risk Characterization Scenarios, Appendix VII for Distribution Center Scenario (October 2000). TRU's assumed cycled 25 percent of the time for two hours (i.e., 15 min every hour for two hours).

Transport Refrigeration Unit Emissions Worksheet: Mondays - Thursdays

OFFROAD2017*

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	ROG_tpd	NOx_tpd	CO_tpd	SOx_tpd	PM10_tpd	PM2_5_tpd	CO2_tpd	Fuel_gpy	Total_Activity_hpy	Total_Population
Kings (SJV)	2040	TRU - Railcar TRU	Aggregated	50	Diesel	0.000269998	0.002201641	0.003509612	5.17015E-07	1.19499E-05	1.09939E-05	0.056267402	35.71650852	14300.8875	44.35346433

*OFFROAD2017, Version 1.0.1., https://www.arb.ca.gov/orion/

Calculated Emission Rates

Total Annual Hours	14300.8875	**Conversion Rate**	
Total Population	44.35346433	Grams/Pound	453.592
Total Hours/Unit	322.43		
Hours/Unit/Day	0.883369863		

	VOC	NOx	CO	SOx	PM10	PM2.5	CO2	
Tons/Day	0.000269998	0.002201641	0.003509612	5.17015E-07	1.19499E-05	1.09939E-05	0.056267402	FALSE
Pounds/Day	0.539996377	4.403281523	7.019224913	0.00103403	0.023899834	0.021987847	112.534804	FALSE
lbs/Day/Unit	***0.012174841***	***0.09927706***	***0.15825652***	***2.33134E-05***	***0.000538849***	***0.000495741***	***2.537226926***	FALSE
lbs/hour/unit	0.013782269	0.112384477	0.179150916	2.63914E-05	0.000609993	0.000561193	2.872213591	-2.42861E-17
lbs/min/unit	0.000229704	0.001873075	0.002985849	4.39857E-07	1.01665E-05	9.35322E-06	0.047870227	FALSE
grams/min/unit	0.104192115	0.849611658	1.354357037	0.000199516	0.004611465	0.004242548	21.71355179	TRUE
grams/sec/unit	0.001736535	0.014160194	0.022572617	3.32526E-06	7.68577E-05	7.07091E-05	0.36189253	FALSE

Project Emissions

Number of TRUs[1]

Truck Type	Trips/Day	Trucks/Day
Medium Heavy Trucks	0	0
Heavy Heavy Trucks	149	75
Total	**149**	**75**

TRU Idling per Truck[2]	120	mins/truck/day
Total TRU Idling:	9,000	mins

	VOC	NOx	CO	SOx	PM10	PM2.5	CO2	CO2/MT/yr
				Pound Per Day				**Tons Per Year**
				Running				
Emission Rate (lb/day/unit)	**0.012174841**	**0.09927706**	**0.15825652**	**2.33134E-05**	**0.000538849**	**0.000495741**	**2.537226926**	
Total Emissions	0.913	7.446	11.869	0.002	0.040	0.037	190.292	31.505
				Idling				
Emission Rate (lb/min/unit)	**0.000229704**	**0.001873075**	**0.002985849**	**4.39857E-07**	**1.01665E-05**	**9.35322E-06**	**0.047870227**	
Total Emissions	2.067	16.858	26.873	0.004	0.091	0.084	430.832	71.329

(1) From TIA from Urban Crossroads (June 17, 2019). For this evaluation, Heavy-Heavy Duty Trucks (HHDT) assumed 4+/5-axle trucks and Medium-Heavy Duty Trucks (MHDT) assumed 2-4-axle trucks.

(2) TRU cycle duration assumptions from CARB's Risk Characterization Scenarios, Appendix VII for Distribution Center Scenario (October 2000). TRU's assumed cycled 25 percent of the time for two hours (i.e., 15 min every hour for two hours).

Transport Refrigeration Unit Emissions Worksheet: Fridays - Sundays

OFFROAD2017*

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	ROG_tpd	NOx_tpd	CO_tpd	SOx_tpd	PM10_tpd	PM2_5_tpd	CO2_tpd	Fuel_gpy	Total_Activity_hpy	Total_Population
Kings (SJV)	2040	TRU - Instate Genset TRU	Aggregated	50	Diesel	0.000251982	0.002892515	0.003927783	7.31676E-07	1.30691E-05	1.20236E-05	0.079282575	50.32570632	30317.6913	38.83295594

*OFFROAD2017, Version 1.0.1., https://www.arb.ca.gov/orion/

Calculated Emission Rates

Total Annual Hours	30317.6913	**Conversion Rate**	
Total Population	38.83295594	Grams/Pound	453.592
Total Hours/Unit	780.720668		
Hours/Unit/Day	2.138960734		

	VOC	NOx	CO	SOx	PM10	PM2.5	CO2
Tons/Day	0.000251982	0.002892515	0.003927783	7.31676E-07	1.30691E-05	1.20236E-05	0.079282575
Pounds/Day	0.503963281	5.785030091	7.855565988	0.001463352	0.026138221	0.024047164	158.565149
lbs/Day/Unit	***0.012977721***	***0.14897218***	***0.202291219***	***3.76832E-05***	***0.000673094***	***0.000619246***	***4.083262404***
lbs/hour/unit	0.006067302	0.069646991	0.094574536	1.76175E-05	0.000314683	0.000289508	1.908993624
lbs/min/unit	0.000101122	0.001160783	0.001576242	2.93626E-07	5.24471E-06	4.82513E-06	0.03181656
grams/min/unit	0.045867996	0.526521968	0.714970882	0.000133186	0.002378959	0.002188642	14.43173726
grams/sec/unit	0.000764467	0.008775366	0.011916181	2.21977E-06	3.96493E-05	3.64774E-05	0.240528954

Project Emissions

Number of TRUs[1]

Truck Type	Trips/Day	Trucks/Day
Medium Heavy Trucks	0	0
Heavy Heavy Trucks	151	76
Total	**151**	**76**

TRU Idling per Truck[2] 120 mins/truck/day
Total TRU Idling: 9,120 mins

	VOC	NOx	CO	SOx	PM10	PM2.5	CO2	CO2/MT/yr
				Pound Per Day				**Tons Per Year**
				Running				
Emission Rate (lb/day/unit)	**0.012977721**	**0.14897218**	**0.202291219**	**3.76832E-05**	**0.000673094**	**0.000619246**	**4.083262404**	
Total Emissions	0.986	11.322	15.374	0.003	0.051	0.047	310.328	51.378
				Idling				
Emission Rate (lb/min/unit)	**0.000101122**	**0.001160783**	**0.001576242**	**2.93626E-07**	**5.24471E-06**	**4.82513E-06**	**0.03181656**	
Total Emissions	0.922	10.586	14.375	0.003	0.048	0.044	290.167	48.040

(1) From TIA from Urban Crossroads (June 17, 2019). For this evaluation, Heavy-Heavy Duty Trucks (HHDT) assumed 4+/5-axle trucks and Medium-Heavy Duty Trucks (MHDT) assumed 2-4-axle trucks.

(2) TRU cycle duration assumptions from CARB's Risk Characterization Scenarios, Appendix VII for Distribution Center Scenario (October 2000). TRU's assumed cycled 25 percent of the time for two hours (i.e., 15 min every hour for two hours).

Transport Refrigeration Unit Emissions Worksheet: Fridays - Sundays

OFFROAD2017*

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	ROG_tpd	NOx_tpd	CO_tpd	SOx_tpd	PM10_tpd	PM2_5_tpd	CO2_tpd	Fuel_gpy	Total_Activity_hpy	Total_Population
Kings (SJV)	2040	TRU - Instate Trailer TRU	Aggregated	50	Diesel	0.005227533	0.035647605	0.062516397	7.9345E-06	0.000215401	0.000198168	0.86640828	549.9645911	220205.7837	166.207724

*OFFROAD2017, Version 1.0.1., https://www.arb.ca.gov/orion/

Calculated Emission Rates

Total Annual Hours	220205.7837	**Conversion Rate**	
Total Population	166.207724	Grams/Pound	453.592
Total Hours/Unit	1324.882974		
Hours/Unit/Day	3.629816366		

	VOC	NOx	CO	SOx	PM10	PM2.5	CO2
Tons/Day	0.005227533	0.035647605	0.062516397	7.9345E-06	0.000215401	0.000198168	0.86640828
Pounds/Day	10.45506568	71.29520973	125.0327943	0.01586899	0.430801078	0.396336992	1732.816561
lbs/Day/Unit	***0.062903609***	***0.428952446***	***0.752268254***	***9.54769E-05***	***0.002591944***	***0.002384588***	***10.4256079***
lbs/hour/unit	0.017329695	0.118174696	0.207246918	2.63035E-05	0.00071407	0.000656945	2.872213591
lbs/min/unit	0.000288828	0.001969578	0.003454115	4.38392E-07	1.19012E-05	1.09491E-05	0.047870227
grams/min/unit	0.13101018	0.893384946	1.566759065	0.000198851	0.005398276	0.004966414	21.71355179
grams/sec/unit	0.002183503	0.014889749	0.026112651	3.31418E-06	8.99713E-05	8.27736E-05	0.36189253

Project Emissions

Number of TRUs[1]

Truck Type	Trips/Day	Trucks/Day
Medium Heavy Trucks	0	0
Heavy Heavy Trucks	151	76
Total	**151**	**76**

TRU Idling per Truck[2]	120	mins/truck/day
Total TRU Idling:	9,120	mins

	VOC	NOx	CO	SOx	PM10	PM2.5	CO2	CO2/MT/yr
				Pound Per Day				**Tons Per Year**
				Running				
Emission Rate (lb/day/unit)	**0.062903609**	**0.428952446**	**0.752268254**	**9.54769E-05**	**0.002591944**	**0.002384588**	**10.4256079**	
Total Emissions	4.781	32.600	57.172	0.007	0.197	0.181	792.346	131.182
				Idling				
Emission Rate (lb/min/unit)	**0.000288828**	**0.001969578**	**0.003454115**	**4.38392E-07**	**1.19012E-05**	**1.09491E-05**	**0.047870227**	
Total Emissions	2.634	17.963	31.502	0.004	0.109	0.100	436.576	72.280

(1) From TIA from Urban Crossroads (June 17, 2019). For this evaluation, Heavy-Heavy Duty Trucks (HHDT) assumed 4+/5-axle trucks and Medium-Heavy Duty Trucks (MHDT) assumed 2-4-axle trucks.

(2) TRU cycle duration assumptions from CARB's Risk Characterization Scenarios, Appendix VII for Distribution Center Scenario (October 2000). TRU's assumed cycled 25 percent of the time for two hours (i.e., 15 min every hour for two hours).

Transport Refrigeration Unit Emissions Worksheet: Fridays - Sundays

OFFROAD2017*

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	ROG_tpd	NOx_tpd	CO_tpd	SOx_tpd	PM10_tpd	PM2_5_tpd	CO2_tpd	Fuel_gpy	Total_Activity_hpy	Total_Population
Kings (SJV)	2040	TRU - Instate Truck TRU	Aggregated	25	Diesel	0.0006032	0.005853785	0.004903165	1.0806E-06	0.000228739	0.00021044	0.117706395	74.71575542	59256.47234	43.53892163

**OFFROAD2017, Version 1.0.1., https://www.arb.ca.gov/orion/*

Calculated Emission Rates

Total Annual Hours	59256.47234	**Conversion Rate**	
Total Population	43.53892163	Grams/Pound	453.592
Total Hours/Unit	1361		
Hours/Unit/Day	3.728767123		

	VOC	NOx	CO	SOx	PM10	PM2.5	CO2
Tons/Day	0.0006032	0.005853785	0.004903165	1.0806E-06	0.000228739	0.00021044	0.117706395
Pounds/Day	1.206399003	11.70757092	9.806329858	0.002161196	0.457478005	0.420879765	235.4127892
lbs/Day/Unit	***0.027708518***	***0.268898964***	***0.225231344***	***4.96383E-05***	***0.010507334***	***0.009666748***	***5.406950387***
lbs/hour/unit	0.007431013	0.072114711	0.060403704	1.33122E-05	0.002817911	0.002592478	1.450063844
lbs/min/unit	0.00012385	0.001201912	0.001006728	2.21871E-07	4.69652E-05	4.3208E-05	0.024167731
grams/min/unit	0.05617747	0.545177601	0.456643946	0.000100639	0.021303032	0.01959879	10.96228932
grams/sec/unit	0.000936291	0.009086293	0.007610732	1.67731E-06	0.000355051	0.000326646	0.182704822

Project Emissions

Number of TRUs[1]

Truck Type	Trips/Day	Trucks/Day
Medium Heavy Trucks	0	0
Heavy Heavy Trucks	151	76
Total	**151**	**76**

TRU Idling per Truck[2]	120	mins/truck/day
Total TRU Idling:	9,120	mins

	VOC	NOx	CO	SOx	PM10	PM2.5	CO2	CO2/MT/yr
				Pound Per Day				Tons Per Year
				Running				
Emission Rate (lb/day/unit)	**0.027708518**	**0.268898964**	**0.225231344**	**4.96383E-05**	**0.010507334**	**0.009666748**	**5.406950387**	
Total Emissions	2.106	20.436	17.118	0.004	0.799	0.735	410.928	68.034
				Idling				
Emission Rate (lb/min/unit)	**0.00012385**	**0.001201912**	**0.001006728**	**2.21871E-07**	**4.69652E-05**	**4.3208E-05**	**0.024167731**	
Total Emissions	1.130	10.961	9.181	0.002	0.428	0.394	220.410	36.491

(1) From TIA from Urban Crossroads (June 17, 2019). For this evaluation, Heavy-Heavy Duty Trucks (HHDT) assumed 4+/5-axle trucks and Medium-Heavy Duty Trucks (MHDT) assumed 2-4-axle trucks.

(2) TRU cycle duration assumptions from CARB's Risk Characterization Scenarios, Appendix VII for Distribution Center Scenario (October 2000). TRU's assumed cycled 25 percent of the time for two hours (i.e., 15 min every hour for two hours).

Transport Refrigeration Unit Emissions Worksheet: Fridays - Sundays

OFFROAD2017*

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	ROG_tpd	NOx_tpd	CO_tpd	SOx_tpd	PM10_tpd	PM2_5_tpd	CO2_tpd	Fuel_gpy	Total_Activity_hpy	Total_Population
Kings (SJV)	2040	TRU - Instate Van TRU	Aggregated	25	Diesel	1.39645E-05	0.000135519	0.000113512	2.50166E-08	5.29547E-06	4.87183E-06	0.002724985	1.729722041	2149.198479	1.579131873

**OFFROAD2017, Version 1.0.1., https://www.arb.ca.gov/orion/*

Calculated Emission Rates

Total Annual Hours	2149.198479	**Conversion Rate**	
Total Population	1.579131873	Grams/Pound	453.592
Total Hours/Unit	1361		
Hours/Unit/Day	3.728767123		

	VOC	NOx	CO	SOx	PM10	PM2.5	CO2
Tons/Day	1.39645E-05	0.000135519	0.000113512	2.50166E-08	5.29547E-06	4.87183E-06	0.002724985
Pounds/Day	0.027928981	0.271038462	0.227023401	5.00332E-05	0.010590936	0.009743661	5.449970866
lbs/Day/Unit	***0.01768629***	***0.171637637***	***0.143764688***	***3.1684E-05***	***0.00670681***	***0.00617026***	***3.45124493***
lbs/hour/unit	0.0047432	0.046030667	0.038555556	8.49718E-06	0.001798667	0.001654773	0.925572666
lbs/min/unit	7.90533E-05	0.000767178	0.000642593	1.4162E-07	2.99778E-05	2.75796E-05	0.015426211
grams/min/unit	0.03585796	0.347985703	0.291474859	6.42375E-05	0.01359768	0.012509866	6.997205947
grams/sec/unit	0.000597633	0.005799762	0.004857914	1.07063E-06	0.000226628	0.000208498	0.116620099

Project Emissions

Number of TRUs[1]

Truck Type	Trips/Day	Trucks/Day
Medium Heavy Trucks	0	0
Heavy Heavy Trucks	151	76
Total	**151**	**76**

TRU Idling per Truck[2]	120	mins/truck/day
Total TRU Idling:	9,120	mins

	VOC	NOx	CO	SOx	PM10	PM2.5	CO2	CO2/MT/yr
	Pound Per Day							Tons Per Year
				Running				
Emission Rate (lb/day/unit)	**0.017686288**	**0.171637637**	**0.143764688**	**3.1684E-05**	**0.006706809**	**0.006170264**	**3.451244928**	
Total Emissions	1.344	13.044	10.926	0.002	0.510	0.469	262.295	43.426
				Idling				
Emission Rate (lb/min/unit)	**7.90533E-05**	**0.000767178**	**0.000642593**	**1.4162E-07**	**2.99778E-05**	**2.75796E-05**	**0.015426211**	
Total Emissions	0.721	6.997	5.860	0.001	0.273	0.252	140.687	23.292

(1) From TIA from Urban Crossroads (June 17, 2019). For this evaluation, Heavy-Heavy Duty Trucks (HHDT) assumed 4+/5-axle trucks and Medium-Heavy Duty Trucks (MHDT) assumed 2-4-axle trucks.

(2) TRU cycle duration assumptions from CARB's Risk Characterization Scenarios, Appendix VII for Distribution Center Scenario (October 2000). TRU's assumed cycled 25 percent of the time for two hours (i.e., 15 min every hour for two hours).

Transport Refrigeration Unit Emissions Worksheet: Fridays - Sundays

OFFROAD2017*

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	ROG_tpd	NOx_tpd	CO_tpd	SOx_tpd	PM10_tpd	PM2_5_tpd	CO2_tpd	Fuel_gpy	Total_Activity_hpy	Total_Population
Kings (SJV)	2040	TRU - Out-of-State Genset TRU	Aggregated	50	Diesel	0.00015907	0.001823126	0.0024773	4.61042E-07	8.24371E-06	7.58421E-06	0.049958109	31.71159757	19104.00263	154.5082189

*OFFROAD2017, Version 1.0.1., https://www.arb.ca.gov/orion/

Calculated Emission Rates

Total Annual Hours	19104.00263	**Conversion Rate**	
Total Population	154.5082189	Grams/Pound	453.592
Total Hours/Unit	123.643925		
Hours/Unit/Day	0.338750479		

	VOC	NOx	CO	SOx	PM10	PM2.5	CO2
Tons/Day	0.00015907	0.001823126	0.0024773	4.61042E-07	8.24371E-06	7.58421E-06	0.049958109
Pounds/Day	0.318140954	3.646251593	4.954599418	0.000922083	0.016487421	0.015168427	99.91621701
lbs/Day/Unit	***0.002059055***	***0.023599079***	***0.032066899***	***5.96786E-06***	***0.000106709***	***9.81723E-05***	***0.646672505***
lbs/hour/unit	0.006078383	0.069665078	0.094662298	1.76173E-05	0.000315008	0.000289807	1.908993624
lbs/min/unit	0.000101306	0.001161085	0.001577705	2.93621E-07	5.25013E-06	4.83012E-06	0.03181656
grams/min/unit	0.045951766	0.5266587	0.71563435	0.000133184	0.002381416	0.002190903	14.43173726
grams/sec/unit	0.000765863	0.008777645	0.011927239	2.21974E-06	3.96903E-05	3.65151E-05	0.240528954

Project Emissions

Number of TRUs[1]

Truck Type	Trips/Day	Trucks/Day
Medium Heavy Trucks	0	0
Heavy Heavy Trucks	151	76
Total	**151**	**76**

TRU Idling per Truck[2]	120	mins/truck/day
Total TRU Idling:	9,120	mins

	VOC	NOx	CO	SOx	PM10	PM2.5	CO2	CO2/MT/yr
				Pound Per Day				Tons Per Year
				Running				
Emission Rate (lb/day/unit)	**0.002059055**	**0.023599079**	**0.032066899**	**5.96786E-06**	**0.000106709**	**9.81723E-05**	**0.646672505**	
Total Emissions	0.156	1.794	2.437	0.000	0.008	0.007	49.147	8.137
				Idling				
Emission Rate (lb/min/unit)	**0.000101306**	**0.001161085**	**0.001577705**	**2.93621E-07**	**5.25013E-06**	**4.83012E-06**	**0.03181656**	
Total Emissions	0.924	10.589	14.389	0.003	0.048	0.044	290.167	48.040

(1) From TIA from Urban Crossroads (June 17, 2019). For this evaluation, Heavy-Heavy Duty Trucks (HHDT) assumed 4+/5-axle trucks and Medium-Heavy Duty Trucks (MHDT) assumed 2-4-axle trucks.

(2) TRU cycle duration assumptions from CARB's Risk Characterization Scenarios, Appendix VII for Distribution Center Scenario (October 2000). TRU's assumed cycled 25 percent of the time for two hours (i.e., 15 min every hour for two hours).

Transport Refrigeration Unit Emissions Worksheet: Fridays - Sundays

OFFROAD2017*

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	ROG_tpd	NOx_tpd	CO_tpd	SOx_tpd	PM10_tpd	PM2_5_tpd	CO2_tpd	Fuel_gpy	Total_Activity_hpy	Total_Population
Kings (SJV)	2040	TRU - Out-of-State Trailer TRU	Aggregated	50	Diesel	0.002608353	0.021269244	0.033905079	4.99469E-06	0.000115444	0.000106208	0.543578739	345.0440926	138155.6304	658.4366

*OFFROAD2017, Version 1.0.1., https://www.arb.ca.gov/orion/

Calculated Emission Rates

Total Annual Hours	138155.6304	**Conversion Rate**	
Total Population	658.4366	Grams/Pound	453.592
Total Hours/Unit	209.8237407		
Hours/Unit/Day	0.574859564		

	VOC	NOx	CO	SOx	PM10	PM2.5	CO2
Tons/Day	0.002608353	0.021269244	0.033905079	4.99469E-06	0.000115444	0.000106208	0.543578739
Pounds/Day	5.216706994	42.53848823	67.81015813	0.009989389	0.23088753	0.212416527	1087.157478
lbs/Day/Unit	***0.007922869***	***0.064605291***	***0.102986617***	***1.51714E-05***	***0.00035066***	***0.000322607***	***1.651119452***
lbs/hour/unit	0.013782269	0.112384477	0.179150916	2.63914E-05	0.000609993	0.000561193	2.872213591
lbs/min/unit	0.000229704	0.001873075	0.002985849	4.39857E-07	1.01665E-05	9.35322E-06	0.047870227
grams/min/unit	0.104192115	0.849611658	1.354357037	0.000199516	0.004611465	0.004242548	21.71355179
grams/sec/unit	0.001736535	0.014160194	0.022572617	3.32526E-06	7.68577E-05	7.07091E-05	0.36189253

Project Emissions

Number of TRUs[1]

Truck Type	Trips/Day	Trucks/Day
Medium Heavy Trucks	0	0
Heavy Heavy Trucks	151	76
Total	**151**	**76**

TRU Idling per Truck[2]	120	mins/truck/day
Total TRU Idling:	9,120	mins

	VOC	NOx	CO	SOx	PM10	PM2.5	CO2	CO2/MT/yr
				Pound Per Day				Tons Per Year
				Running				
Emission Rate (lb/day/unit)	**0.007922869**	**0.064605291**	**0.102986617**	**1.51714E-05**	**0.00035066**	**0.000322607**	**1.651119452**	
Total Emissions	0.602	4.910	7.827	0.001	0.027	0.025	125.485	20.775
				Idling				
Emission Rate (lb/min/unit)	**0.000229704**	**0.001873075**	**0.002985849**	**4.39857E-07**	**1.01665E-05**	**9.35322E-06**	**0.047870227**	
Total Emissions	2.095	17.082	27.231	0.004	0.093	0.085	436.576	72.280

(1) From TIA from Urban Crossroads (June 17, 2019). For this evaluation, Heavy-Heavy Duty Trucks (HHDT) assumed 4+/5-axle trucks and Medium-Heavy Duty Trucks (MHDT) assumed 2-4-axle trucks.

(2) TRU cycle duration assumptions from CARB's Risk Characterization Scenarios, Appendix VII for Distribution Center Scenario (October 2000). TRU's assumed cycled 25 percent of the time for two hours (i.e., 15 min every hour for two hours).

Transport Refrigeration Unit Emissions Worksheet: Fridays - Sundays

OFFROAD2017*

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	ROG_tpd	NOx_tpd	CO_tpd	SOx_tpd	PM10_tpd	PM2_5_tpd	CO2_tpd	Fuel_gpy	Total_Activity_hpy	Total_Population
Kings (SJV)	2040	TRU - Railcar TRU	Aggregated	50	Diesel	0.000269998	0.002201641	0.003509612	5.17015E-07	1.19499E-05	1.09939E-05	0.056267402	35.71650852	14300.8875	44.35346433

*OFFROAD2017, Version 1.0.1., https://www.arb.ca.gov/orion/

Calculated Emission Rates

Total Annual Hours	14300.8875	**Conversion Rate**	
Total Population	44.35346433	Grams/Pound	453.592
Total Hours/Unit	322.43		
Hours/Unit/Day	0.883369863		

	VOC	NOx	CO	SOx	PM10	PM2.5	CO2	
Tons/Day	0.000269998	0.002201641	0.003509612	5.17015E-07	1.19499E-05	1.09939E-05	0.056267402	FALSE
Pounds/Day	0.539996377	4.403281523	7.019224913	0.00103403	0.023899834	0.021987847	112.534804	FALSE
lbs/Day/Unit	***0.012174841***	***0.09927706***	***0.15825652***	***2.33134E-05***	***0.000538849***	***0.000495741***	***2.537226926***	FALSE
lbs/hour/unit	0.013782269	0.112384477	0.179150916	2.63914E-05	0.000609993	0.000561193	2.872213591	-2.42861E-17
lbs/min/unit	0.000229704	0.001873075	0.002985849	4.39857E-07	1.01665E-05	9.35322E-06	0.047870227	FALSE
grams/min/unit	0.104192115	0.849611658	1.354357037	0.000199516	0.004611465	0.004242548	21.71355179	TRUE
grams/sec/unit	0.001736535	0.014160194	0.022572617	3.32526E-06	7.68577E-05	7.07091E-05	0.36189253	FALSE

Project Emissions

Number of TRUs[1]

Truck Type	Trips/Day	Trucks/Day
Medium Heavy Trucks	0	0
Heavy Heavy Trucks	151	76
Total	**151**	**76**

TRU Idling per Truck[2]	120	mins/truck/day
Total TRU Idling:	9,120	mins

	VOC	NOx	CO	SOx	PM10	PM2.5	CO2	CO2/MT/yr
				Pound Per Day				**Tons Per Year**
				Running				
Emission Rate (lb/day/unit)	**0.012174841**	**0.09927706**	**0.15825652**	**2.33134E-05**	**0.000538849**	**0.000495741**	**2.537226926**	
Total Emissions	0.925	7.545	12.027	0.002	0.041	0.038	192.829	31.925
				Idling				
Emission Rate (lb/min/unit)	**0.000229704**	**0.001873075**	**0.002985849**	**4.39857E-07**	**1.01665E-05**	**9.35322E-06**	**0.047870227**	
Total Emissions	2.095	17.082	27.231	0.004	0.093	0.085	436.576	72.280

(1) From TIA from Urban Crossroads (June 17, 2019). For this evaluation, Heavy-Heavy Duty Trucks (HHDT) assumed 4+/5-axle trucks and Medium-Heavy Duty Trucks (MHDT) assumed 2-4-axle trucks.

(2) TRU cycle duration assumptions from CARB's Risk Characterization Scenarios, Appendix VII for Distribution Center Scenario (October 2000). TRU's assumed cycled 25 percent of the time for two hours (i.e., 15 min every hour for two hours).

2. Criteria Air Pollutant and GHG Modeling Inputs and Assumptions

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CalEEMod Land Use Inputs: Phase 1

Name: Jackson Ranch Specific Plan
Project Location: Kings County
Climate Zone: 3
Land Use Setting: Rural
Operational Year: 2023, 2040
Utility Company: PG&E

Land Use	Land Use Amount	Metric	Acres	Square Feet
Other				
Phase 1 Roadways	6.600	acres	6.600	
Phase 2 Roadways	12.650	acres	12.650	
Wastewater Treatment Facility	6.200	acres	6.200	
Phase 1				
Regional Shopping Center	11,980	building square feet (BSF)	0.2750	11,980
Fast Food Restaurant w/Drive Thru	9,847	BSF	0.2261	9,847
High-Turnover Sit-Down Restaurant	10,026	BSF	0.2302	10,026
Convenience Market/Gas Station	12,369	BSF	0.2840	12,369
Motel	187	Rooms	0.6091	106,131
Truck Stop	10,892	BSF	0.2500	10,892
Passenger Vehicle Parking Lot	795	spaces	2.9566	128,790
Truck Stop Parking Lot	121,680	SF	2.7934	121,680
Internal Accessways	414,150	SF	9.5076	414,150
Landscaping	354,338	SF	8.1345	354,338
Misc Asphalt	79,871	SF	1.8336	79,871

Type	Land Use Type	Land Use Unit Amount	Land Use Size Metric	Lot Acreage	Land Use Square Feet
Retail	Regional Shopping Center	11.980	1000bsf	0.28	11,980
Recreational	Fast Food Restaurant w/Drive Thru	9.847	1000bsf	0.23	9,847
Recreational	High-Turnover Sit-Down Restaurant	10.026	1000bsf	0.23	10,026
Retail	Convenience Market/Gas Station	23.261	1000bsf	0.53	23,261
Recreational	Motel	187	room	0.61	106,131
Parking	Parking Lot	5.750	Acre	5.75	250,470
Parking	Other Asphalt	494.021	1000bsf	11.34	494,021.3
Parking	Other Non-Asphalt	354.338	1000bsf	14.33	0.0
				33.30	**905,736**

Trip Generation and VMT[1]

	Mon-Thurs	Friday	Sat/Sun		
Daily Trips:[2]	9,922	12,006	12,006		
Passenger	*6,945*	*8,404*	*8,404*		
Trucks (30% of total trips) [3]	*2,977*	*3,602*	*3,602*		
Days Per Week	4	1	2		
Weeks Per Year	52	52	52	**Total Annual Trips**	**Average Daily Trips**
Annual Trips	2,063,776	624,312	1,248,624	3,936,712	10,815
Passenger	*1,444,560*	*437,008*	*874,016*	*2,755,584*	*7,570*
Trucks	*619,216*	*187,304*	*374,608*	*1,181,128*	*3,245*

	Mon-Thurs	Friday	Sat/Sun		
Daily VMT:[4]	301,682	365,685	365,685		
Passenger	*67,365*	*84,911*	*84,911*		
Trucks	*234,317*	*280,774*	*280,774*		
Days Per Week	4	1	2		
Weeks Per Year	52	52	52	**Total Annual VMT**	**Average Daily VMT**
Annual Trips	62,749,856	19,015,620	38,031,240	119,796,716	329,112
Passenger	*14,011,920*	*4,415,372*	*8,830,744*	*27,258,036*	*74,885*
Trucks	*48,737,936*	*14,600,248*	*29,200,496*	*92,538,680*	*254,227*

	Passenger Vehicles	Trucks
Annual Trips:	2,755,584	1,181,128
Annual VMT:	27,258,036	92,538,680
Average Trip Length:	9.8919	78.3477
Average Daily Trips	7,570	3,245
Average Daily VMT	74,885	254,227

Project Trips and VMT CalEEMod Inputs

	Passenger/Main Model Run		Truck Model Run	
Land Use	**Trips Per Day**[5]	**Trip Generation Rate**	**Trips Per Day**[5]	**Trip Generation Rate**
Regional Shopping Center	1,514	126.382	649	54.171
Fast Food Restaurant w/Drive Thru	1,514	153.758	649	65.905
High-Turnover Sit-Down Restaurant	1,514	151.013	649	64.729
Convenience Market/Gas Station	1,514	65.090	649	27.900
Motel	1,514	8.097	649	3.470
Total	***7,570***	***NA***	***3,245***	

[1] *Based on information provided by Kittleson and Associates*

[2] *Includes diverted trips.*

[3] *Trucks generate 30 percent of total daily trips on average.*

[4] *Includes VMT associated with diverted trips.*

[5] *For purposes of this analysis, vehicle trips and miles traveled are proportioned equally between the land uses.*

Architectural Coating

Land Use	Land Use Amount (BSF)	CalEEMod Paintable Surface Area Multiplier*	Total Paintable Surface Area (BSF)	Total Paintable Interior Surface Area (BSF)*	Total Paintable Exterior Surface Area (BSF)*
Regional Shopping Center	11,980	2.0	23,960	17,970	5,990
Fast Food Restaurant w/Drive Thru	9,847	2.0	19,694	14,771	4,924
High-Turnover Sit-Down Restaurant	10,026	2.0	20,052	15,039	5,013
Convenience Market/Gas Station	23,261	2.0	46,522	34,892	11,631
Motel	106,131	2.0	212,262	159,197	53,066
			Non-Residential Sub-Total	***241,868***	***80,623***
Parking Lot	250,470	0.06	15,028	n/a	15,028
			Parking Sub-Total	***0***	***15,028***

**Based on CalEEMod methodology in calculating the paintable surface areas for a nonresidential building and parking lot.*

Water Use

CalEEMod Inputs

Land Use	Daily Water Demand (gpd)[1, 2]	Annual Water Demand (gpy)[1, 2]	Indoor (gpy)[3]	Outdoor (gpy)[3]
Regional Shopping Center	599	218,635	218,635.00	0
Fast Food Restaurant w/Drive Thru	3,151	1,150,130	1,150,129.60	0
High-Turnover Sit-Down Restaurant	3,208	1,171,037	1,171,036.80	0
Convenience Market/Gas Station	7,606	2,776,190	2,776,190.00	0
Motel	13,090	4,777,850	4,777,850.00	0
Total	**27,654**	**10,093,841**	**10,093,841**	**0**

[1] *See Table 5.13-1 in Section 5.13, Utilities and Service Systems, of the DEIR.*

[2] *Based on 365 days per year.*

[3] *Assumes 100 percent of total water demand would be indoor/wastewater.*

Solid Waste*

Land Use	Daily Solid Waste Generated (lbs/day)[1]	Annual Solid Waste Generated (tons/yr)[2]	
Regional Shopping Center	72	13.14	
Fast Food Restaurant w/Drive Thru	49	8.99	
High-Turnover Sit-Down Restaurant	50	9.15	
Convenience Market/Gas Station	209	38.14	
Motel	374	68.26	
Total	**754**	**138**	12,438

[1] *See Table 5.13-5 in Section 5.13, Utilities and Service Systems, of the DEIR.*

[2] *Based on 365 days per year.*

Electricity (Buildings)

Buildings constructed after January 1, 2020 are required to meet the 2019 Building Energy Efficiency Standards, which are result in 30 percent more energy efficiency for non-residential uses compared to the 2016 Building Energy Efficiency Standards.

Carbon Intensity Factors

Pacific Gas & Electric Carbon Intensity Factors

PG&E CO_2e Intensity Factor[1] 206.29 pounds per megawatt hour

	2018	2030[3]	Adjusted Carbon Intensity (lbs of CO_2e/MWh)
Assumed Percent Renewable[2]	38.9%	60%	**135.0507365**
CO_2e MTons/Mwh without Renewable	337.6268412		

CO2 (Year 2023):	206.29	pounds per megawatt hour
CO2 (Year 2040):	135.0507365	pounds per megawatt hour
CH4:[4]	0.029	pound per megawatt hour
N2O:[4]	0.00617	pound per megawatt hour

[1] 2018 carbon emission factor reported to The Climate Registry. The Climate Registry. CRIS Climate Report. Utility Specific Emission Factor. https://www.theclimateregistry.org/our-members/cris-public-reports/

[2] PG&E Corporation. 2018 Joint Annual Report to Shareholders. www.pgecorp.com/investors/financial_reports/annual_report_proxy_statement/ar_pdf/2018/2018_Annual_Report.pdf

[3] For purposes of the analysis, for year 2040 full buildout conditions, it is anticipated that PG&E would meet the 2030 RPS target of 60 percent renewables as established under Senate Bill 100.

[4] CalEEMod default values.

CalEEMod Land Use Inputs: Phase 2

Name:	Jackson Ranch Specific Plan
Project Location:	Kings County
Climate Zone:	3
Land Use Setting:	Rural
Operational Year:	2040
Utility Company:	PG&E

Land Use	Land Use Amount	Metric	Acres	Square Feet
Other				
Phase 2 Roadways	12.650	acres	12.650	
Phase 2				
Freeway Incubator	470,448	BSF	10.8000	470,448
Business Center	1,864,149	BSF	42.7950	1,864,149
Misc Asphalt	2,636,035	SF	60.5150	2,636,035

Type	Land Use Type	Land Use Unit Amount	Land Use Size Metric	Lot Acreage	Land Use Square Feet
Industrial	General Light Industrial	470.4480	1000bsf	10.80	470,448
Industrial	Unrefrigerated Warehouse No Rail	1,677.7341	1000bsf	38.52	1,677,734
Industrial	Refrigerated Warehouse No Rail	186.4149	1000bsf	4.28	186,415
Parking	Other Asphalt	73.165	acre	73.17	3,187,069
				126.76	

Trip Generation

	Mon-Thurs	Friday	Sat/Sun		
Daily Trips:[2]	4,981	5,036	5,036		
Passenger	*3,487*	*3,525*	*3,525*		
Trucks (30% of total trips) [3]	*1,494*	*1,511*	*1,511*		
Days Per Week	4	1	2		
Weeks Per Year	52	52	52	**Total Annual Trips**	**Average Daily Trips**
Annual Trips	1,036,048	261,872	523,744	1,821,664	5,005
Passenger	*725,296*	*183,300*	*366,600*	*1,275,196*	*3,503*
Trucks	*310,752*	*78,572*	*157,144*	*546,468*	*1,501*

	Mon-Thurs	Friday	Sat/Sun		
Daily VMT:[4]	167,814	167,070	167,070		
Passenger	*4,035*	*5,936*	*5,936*		
Trucks	*163,779*	*161,134*	*161,134*		
Days Per Week	4	1	2		
Weeks Per Year	52	52	52	**Total Annual VMT**	**Average Daily VMT**
Annual Trips	34,905,312	8,687,640	17,375,280	60,968,232	167,495
Passenger	*839,280*	*308,672*	*617,344*	*1,765,296*	*4,850*
Trucks	*34,066,032*	*8,378,968*	*16,757,936*	*59,202,936*	*162,645*

	Passenger Vehicles	Trucks
Annual Trips:	1,275,196	546,468
Annual VMT:	1,765,296	59,202,936
Average Trip Length:	1.38	108.34
Average Daily Trips	3,503	1,501
Average Daily VMT	4,850	162,645

Project Trips and VMT CalEEMod Inputs

	Passenger/Main Model Run		Truck Model Run	
Land Use	**Trips Per Day[5]**	**Trip Generation Rate**	**Trips Per Day[5]**	**Trip Generation Rate**
General Light Industrial	1,168	2.4822	500	1.0637
Unrefrigerated Warehouse No Rail	1,168	0.6960	500	0.2983
Refrigerated Warehouse No Rail	1,168	6.2643	500	2.6845
Total	***3,503***	***NA***	***1,501***	

[1] *Based on information provided by Kittleson and Associates*

[2] *Includes diverted trips.*

[3] *Trucks generate 30 percent of total daily trips on average.*

[4] *Includes VMT associated with diverted trips.*

[5] *For purposes of this analysis, vehicle trips and miles traveled are proportioned equally between the land uses.*

Onsite Equipment

Forklifts

	Total Warehouse Space (SF)	Number of Forklifts
Example Warehousing Project	1,669,027	125

	Total Warehouse Space (SF)	Forecast # of Forklifts
Proposed Project	1,864,149	140

Forklift Fuel Type: CNG

Number of Forklifts	Shift	Hours/shift	Hours/Day/Unit	Operational Hours	Fuel Type
140	3	4	12	1,675	CNG

Yard Trucks

Number of Yard Trucks:[1]	7	yard trucks
Fuel Type:	Diesel	
Daily Hours of Operation:	4	hr/truck/day
Total Daily Op Hours:	28	hours/day

[1] *Based on 3.6 yard trucks per million square feet of building space. 2014, June. SCAQMD High Cube Warehouse Truck Trip Study White Paper Summary of Business Survey Results. http://www.aqmd.gov/docs/default-source/ceqa/handbook/high-cube-warehouse-trip-rate-study-for-air-quality-analysis/business-survey-summary.pdf.*

Architectural Coating

Land Use	Land Use Amount (BSF)	CalEEMod Paintable Surface Area Multiplier[1]	Total Paintable Surface Area (BSF)	Total Paintable Interior Surface Area (BSF)[1]	Total Paintable Exterior Surface Area (BSF)[1]
General Light Industrial	470,448	2.0	940,896	705,672	235,224
Unrefrigerated Warehouse No Rail	1,677,734	2.0	3,355,468	2,516,601	838,867
Refrigerated Warehouse No Rail	186,415	2.0	372,830	279,622	93,207
			Non-Residential Sub-Total	***3,501,896***	***1,167,299***
Other Asphalt	3,187,069	0.06	191,224	n/a	191,224
			Parking Sub-Total	***0***	***191,224***

**Based on CalEEMod methodology in calculating the paintable surface areas for a nonresidential building and parking lot.*

Water Use

Daily Water Demand:[1] 30,368 gallons per day (gpd)

Annual Water Demand:[2] 11,084,320 gallons per year (gpy)

CalEEMod Inputs

Land Use	Annual Water Demand (gpy)[3]	Indoor (gpy)[4]	Outdoor (gpy)[3]
General Light Industrial	3,694,773	3,694,773	0
Unrefrigerated Warehouse No Rail	3,694,773	3,694,773	0
Refrigerated Warehouse No Rail	3,694,773	3,694,773	0
Total	**11,084,320**	**11,084,320**	**0**

[1] *See Table 5.13-1 in Section 5.13, Utilities and Service Systems, of the DEIR.*

[2] *Based on 365 days per year.*

[3] *Proportioned equally between the uses for purposes of this analysis.*

[4] *Assumes 100 percent of total water demand would be indoor/wastewater.*

Solid Waste*

Daily Solid Waste Generation:[1]	11,684	pounds per day
Annual Solid Waste Generation:[2]	4,264,660	pounds per yr
Annual Solid Waste Generation (tons):	2,132	tons per year (tpy)

Land Use	Annual Solid Waste Generated (tons/yr)[3]
General Light Industrial	710.78
Unrefrigerated Warehouse No Rail	710.78
Refrigerated Warehouse No Rail	710.78
Total	**2,132**

[1] *See Table 5.13-5 in Section 5.13, Utilities and Service Systems, of the DEIR.*

[2] *Based on 365 days per year.*

[3] *Proportioned equally between the uses for purposes of this analysis.*

Electricity (Buildings)

Buildings constructed after January 1, 2020 are required to meet the 2019 Building Energy Efficiency Standards, which are result in 30 percent more energy efficiency for non-residential uses compared to the 2016 Building Energy Efficiency Standards.

Carbon Intensity Factors

Pacific Gas & Electric Carbon Intensity Factors

PG&E CO_2e Intensity Factor[1] 206.29 pounds per megawatt hour

	2018	2030[3]	Adjusted Carbon Intensity (lbs of CO_2e/MWh)
Assumed Percent Renewable[2]	38.9%	60%	**135.0507365**
CO_2e MTons/Mwh without Renewable	337.6268412		

CO2:	135.0507365	pounds per megawatt hour
CH4:[4]	0.029	pound per megawatt hour
N2O:[4]	0.00617	pound per megawatt hour

[1] *2018 carbon emission factor reported to The Climate Registry. The Climate Registry. CRIS Climate Report. Utility Specific Emission Factor. https://www.theclimateregistry.org/our-members/cris-public-reports/*

[2] *PG&E Corporation. 2018 Joint Annual Report to Shareholders. www.pgecorp.com/investors/financial_reports/annual_report_proxy_statement/ar_pdf/2018/2018_Annual_Report.pdf*

[3] *For purposes of the analysis, for year 2040 full buildout conditions, it is anticipated that PG&E would meet the 2030 RPS target of 60 percent renewables as established under Senate Bill 100.*

[4] *CalEEMod default values.*

Changes to the CalEEMod Defaults - Fleet Mix 2023 (Passenger Cars)

									Passenger ADT:	7,570				
									Total ADTs:	10,815				
Commercial Default	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH	
FleetMix (Model Default)	0.503527	0.027411	0.149893	0.110100	0.017112	0.004226	0.011648	0.165560	0.001710	0.001695	0.005548	0.000922	0.000648	100%
Trips	5,446	296	1,621	1,191	185	46	126	1,791	18	18	60	10	7	10,815
Percent	81%					2%		17%						100%
Proportion	0.618895	0.033691	0.184236	0.135326	0.021033	0.202696	0.558684	1.000000	0.082018	0.081299	0.006819	0.044223	0.031081	
Assumed Mix[1]	70.00%					0.00%		30.00%						100.00%
adjusted with Assumed	0.433226	0.023584	0.128965	0.094728	0.014723	0	0	0	0	0	0.004773	0	0	70%
Trips	4,685	255	1,395	1,024	159	0	0	0	0	0	52	0	0	7,571
	43%	2%	13%	9%	1%	0%	0%	0%	0%	0%	0%	0%	0%	70%
Modified	**0.618895**	**0.033691**	**0.184236**	**0.135326**	**0.021033**	**0**	**0**	**0**	**0**	**0**	**0.006819**	**0**	**0**	**100.0%**
Final Check Trips	4,685	255	1,395	1,024	159	0	0	0	0	0	52	0	0	7,570
	100%					0%		0.00%						

[1]Based the 70/30 passenger vehicle/truck ratio assumed by Kittleson & Associates. For purposes of this analysis, all trucks are assumed to be heavy-heavy duty trucks.

Changes to the CalEEMod Defaults - Fleet Mix 2023 (Trucks)

							Truck ADT:	3,245						
							Total ADTs:	10,815						
Commercial Default	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH	
FleetMix (Model Default)	0.503527	0.027411	0.149893	0.110100	0.017112	0.004226	0.011648	0.165560	0.001710	0.001695	0.005548	0.000922	0.000648	100%
Trips	5,446	296	1,621	1,191	185	46	126	1,791	18	18	60	10	7	10,815
Percent	81%					2%		17%						100%
Proportion	0.618895	0.033691	0.184236	0.135326	0.021033	0.202696	0.558684	1.000000	0.082018	0.081299	0.006819	0.044223	0.031081	
Assumed Mix[1]	70.00%					0.00%		30.00%						100.00%
adjusted with Assumed	0	0	0	0	0	0	0	0.300000	0	0	0	0	0	30%
Trips	0	0	0	0	0	0	0	3,245	0	0	0	0	0	3,245
	0%	0%	0%	0%	0%	0%	0%	30%	0%	0%	0%	0%	0%	30%
Modified	**0.000000**	**0.000000**	**0.000000**	**0.000000**	**0.000000**	**0.000000**	**0.000000**	**1.000000**	**0.000000**	**0.000000**	**0.000000**	**0.000000**	**0.000000**	**100.0%**
Trips Check	0	0	0	0	0	0	0	3,245	0	0	0	0	0	3,245
Assumed MDV/HDT Mix	0%					0.00%		100.00%						
MDT truck adjustment (no buses or MH)														0%
Adjusted MHD Fleet Mix														0%
Assumed Truck Mix	**0**	**0**	**0**	**0**	**0**	**0.000000**	**0.000000**	**1.000000**	**0**	**0**	**0**	**0**	**0**	
Trips - Final Check				0	0	0	0	3,245	0	0	0	0	0	3,245

[1]Based the 70/30 passenger vehicle/truck ratio assumed by Kittleson & Associates. For purposes of this analysis, all trucks are assumed to be heavy-heavy duty trucks.

Changes to the CalEEMod Defaults - Fleet Mix 2040 (Passenger Cars)

Passenger ADT: 11,074
Total ADTs: 15,820

Commercial Default	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH	
FleetMix (Model Default)	0.534298	0.026091	0.159425	0.086793	0.008070	0.003341	0.010188	0.162886	0.001596	0.001199	0.004952	0.000740	0.000422	100%
Trips	8,452	413	2,522	1,373	128	53	161	2,577	25	19	78	12	7	15,820
Percent	82%					2%		16%						100%
Proportion	0.651878	0.031833	0.194509	0.105893	0.009846	0.191067	0.582638	1.000000	0.091273	0.068569	0.006042	0.042320	0.024134	
Assumed Mix[1]	70.00%					0.00%		30.00%						100.00%
adjusted with Assumed	0.456315	0.022283	0.136156	0.074125	0.006892	0	0	0	0	0	0.004229	0	0	70%
Trips	7,219	353	2,154	1,173	109	0	0	0	0	0	67	0	0	11,074
	46%	2%	14%	7%	1%	0%	0%	0%	0%	0%	0%	0%	0%	70%
Modified	**0.651878**	**0.031833**	**0.194509**	**0.105893**	**0.009846**	**0**	**0**	**0**	**0**	**0**	**0.006042**	**0**	**0**	**100.0%**
Final Check Trips	7,219	353	2,154	1,173	109	0	0	0	0	0	67	0	0	11,074
	100%					0%		0.00%						

[1]Based the 70/30 passenger vehicle/truck ratio assumed by Kittleson & Associates. For purposes of this analysis, all trucks are assumed to be heavy-heavy duty trucks.

Changes to the CalEEMod Defaults - Fleet Mix 2040 (Trucks)

						Truck ADT:	4,746							
						Total ADTs:	15,820							
Commercial Default	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH	
FleetMix (Model Default)	0.534298	0.026091	0.159425	0.086793	0.008070	0.003341	0.010188	0.162886	0.001596	0.001199	0.004952	0.000740	0.000422	100%
Trips	8,452	413	2,522	1,373	128	53	161	2,577	25	19	78	12	7	15,820
Percent	82%					2%		16%						100%
Proportion	0.651878	0.031833	0.194509	0.105893	0.009846	0.191067	0.582638	1.000000	0.091273	0.068569	0.006042	0.042320	0.024134	
Assumed Mix[1]	70.00%					0.00%		30.00%						100.00%
adjusted with Assumed	0	0	0	0	0	0.000000	0.000000	0.300000	0.000000	0.000000	0	0.000000	0.000000	30%
Trips	0	0	0	0	0	0	0	4,746	0	0	0	0	0	4,746
	0%	0%	0%	0%	0%	0%	0%	30%	0%	0%	0%	0%	0%	30%
Modified	**0.000000**	**0.000000**	**0.000000**	**0.000000**	**0.000000**	**0.000000**	**0.000000**	**1.000000**	**0.000000**	**0.000000**	**0.000000**	**0.000000**	**0.000000**	**100.0%**
Trips Check	0	0	0	0	0	0	0	4,746	0	0	0	0	0	4,746
Assumed MDV/HDT Mix	0%					0.00%		100.00%						
MDT truck adjustment (no buses or MH)														0%
Adjusted MHD Fleet Mix														0%
Assumed Truck Mix	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1.000000**	**0**	**0**	**0**	**0**	**0**	
Trips - Final Check				0	0	0	0	4,746	0	0	0	0	0	4,746

[1]Based the 70/30 passenger vehicle/truck ratio assumed by Kittleson & Associates. For purposes of this analysis, all trucks are assumed to be heavy-heavy duty trucks.

CalEEMod Project Characteristics Inputs (Construction): Offsite Water Main

Name:	Jackson Ranch Specific Plan
Project Location:	Kings County
Climate Zone:	3
Land Use Setting:	Rural
Operational Year:	2021
Utility Company:	PG&E

General Info

Total Project Site Area 13.55 acres

Disturbed Acreage	Distance (feet)*	Width	SQFT***	Acreage
Pipeline	22,704	18" Pipe	590,304	13.55
TOTAL	4.300		590,304	13.55

**Based on 4.3 miles.*
***Acreage based on aerial photographs*
****Average roadway width used to calculate sqft for pipelines*

CalEEMod Land Use Inputs

Land Use	Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Square Feet
Parking	Other Asphalt	User Defined Industrial	590.30	1000 sqft	13.55	590,304

Demolition Haul

Pipeline Length:	22,704	feet
Length of Pavement Assumed Demo'd:	11,352	feet (assumes 50% for purposes of analysis)
Average Width of 25th Avenue:	26	feet
Area of Pavement Demo:	295,152	SF
Demolition Debris Amount:	5,914	tons
Demolition Debris Hauled Off-Site:	2,957	tons

**Assumes 50% of demolition debris material would be reprocessed onsite and reused.*

Phases	Amount to be Hauled (tons)*	Haul Truck Capacity (tons)**	Haul Distance (mile)*	Total Trip Ends	Duration (days)	Trip Ends/Day
Ashalt Demo Debris Haul	2,957	20	20.00	294	173	2

**Assumes would be hauled to the Avenall Landfill.*
***Based on CalEEMod assumption of 1.2641662 tons per cubic yard and the CalEEMod assumed 16 CY haul truck capacity.*

Architectural Coating

VOC content of 150 grams per liter (CalEEMod default), per SJVAPCD Rule 4601, *Architectural Coatings* .

Land Use	Land Use Amount (BSF)	CalEEMod Paintable Surface Area Multiplier*	Total Paintable Surface Area (BSF)	Total Paintable Interior Surface Area (BSF)*	Total Paintable Exterior Surface Area (BSF)*
Pipeline	295,152	0.06	17,709	n/a	17,709
			Parking Sub-Total	***0***	***17,709***

Construction Phasing: Offsite Water Main

5-Day Work Week

CalEEMod Default Schedule

Phase Name*	Start Date	End Date	Calendar Days	
Asphalt Demolition	10/1/2020	10/28/2020	27	
Onsite Processing	10/1/2020	10/28/2020	27	
Utility Trenching	1/2/2021	9/1/2021	242	
Fine Grading	9/1/2021	10/31/2021	60	
Asphalt Paving	11/1/2021	11/30/2021	29	
Finishing/Landscaping	11/1/2021	1/31/2022	91	
		Duration	476.0	days

Adjusted CalEEMod Default Schedule - (Normalized for 60-Day Schedule)

Phase Name	Start Date	End Date	Calendar Days	Workdays
Asphalt Demolition	1/1/2021	1/4/2021	3	2
Onsite Processing	1/5/2021	1/8/2021	3	4
Utility Trenching	1/11/2021	2/11/2021	31	24
Fine Grading	2/12/2021	2/20/2021	8	6
Asphalt Paving	2/22/2021	2/26/2021	4	5
Finishing/Landscaping	3/1/2021	3/12/2021	11	10
			60.0	

***Based on a similar water pipeline project.**

CalEEMod Construction Off-Road Equipment Inputs: Offsite Water Main*

*Based on comparable water pipeline project, unless otherwise noted.

Equipment Type	CalEEMod Equipment Type	Unit Amount	Hours/Day	HP	LF*	Tier Rating	Worker Trips	CalEEMod Vendor Trips
Asphalt Demolition							**Default**	**Default+6**
Dozer	Rubber Tired Dozers	1	8	247	0.4			
Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	1	8	97	0.37			
End Dump	Dumper/Tender	1	8	16	0.38			2
Water Truck*		1						4
Asphalt Demolition Debris Reprocessing**							**Default**	**Default**
Power Screen Crusher 320 SR	Crushing/Proc. Equipment	1	8	325	0.78			
Utility Trenching							**Default**	**Default+6**
Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	1	8	97	0.37			
Concrete Saw	Concrete/Industrial Saw	1	8	81	0.73			
Excavator	Excavator	1	8	158	0.3819			
Cranes	Cranes	1	8	231	0.29			
End Dump	Dumper/Tender	1	8	16	0.38			2
Water Truck*		1						4
Fine Grading							**Default**	**Default+6**
Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	1	8	97	0.37			
Hydraulic Jackhammer	Air Compressor	1	8	78	0.48			
Concrete Saw	Concrete/Industrial Saw	1	8	81	0.73			
End Dump	Dumper/Tender	1	8	16	0.38			2
Water Truck*		1						4
Asphalt Paving							**Default**	**Default+2**
Asphalt Paving Equipment	Paving Equipment	1	8	132	0.3551			
Steam Roller	Roller	2	8	80	0.3752			
Concrete Truck	Cement/Mortar Mixer	1	8	9	0.56			2
Finishing/Landscaping**							**Default**	**Default**
Cat 450F Backhoe	Tractor/Loader/Backhoe	1	8	127	0.37			
Cat 950K Loader	Tractor/Loader/Backhoe	1	8	230	0.37			
Cat 414EL Skip Loader	Tractor/Loader/Backhoe	1	8	93	0.37			

*Assumes use of one water truck and four trips per truck.

**Utlizes off-road construction equipment mix provided for Phase 1.

CalEEMod Construction Run Land Use Inputs: Waterwater Treatment Facility

Name:	Jackson Ranch Specific Plan
Project Location:	Kings County SJVAPCD
Climate Zone:	3
Land Use Setting:	Rural
Operational Year:	2021
Utility Company:	PG&E

Land Use	Land Use Amount	Metric
Other		
Wastewater Treatment Facility	6.200	acres

Type	Land Use Type	Land Use Unit Amount	Land Use Size Metric	Lot Acreage	Land Use Square Feet
Parking lot	Other Asphalt	6.200	acre	6.20	0
				6.20	**0**

Construction Phasing: Wastewater Treatment Facility

5-Day Work Week

CalEEMod Default Schedule

Phase Name*	Start Date	End Date	Calendar Days		
Site Preparation	1/29/2021	2/11/2021	13		10
Grading	2/12/2021	3/11/2021	27		20
Building Construction	3/12/2021	1/27/2022	321		230
Paving	1/28/2022	2/24/2022	27		20
		Duration	388.0	days	

Adjusted CalEEMod Default Schedule - (Normalized for 4 Month Schedule)

Phase Name	Start Date	End Date	Calendar Days	Workdays
Site Preparation	1/1/2021	1/5/2021	4	3
Grading	1/6/2021	1/14/2021	8	7
Building Construction	1/15/2021	4/24/2021	99	71
Paving	4/26/2021	5/4/2021	8	7
			119.0	

***Based on a similar water pipeline project.**

CalEEMod Construction Off-Road Equipment Inputs: Wastewater Treatment Facility*

*Based on CalEEMod defaults, unless otherwise noted.

Equipment Type	CalEEMod Equipment Type	Unit Amount	Hours/Day	HP	LF*	Tier Rating	Worker Trips	CalEEMod Vendor Trips
Site Preparation							**Default**	**Default**
Rubber Tired Dozers	Rubber Tired Dozers	3	8	247	0.4			
Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	4	8	97	0.37			
Grading							**Default**	**Default**
Excavator	Excavators	1	8	158	0.38			
Graders	Graders	1	8	187	0.41			
Rubber Tired Dozers	Rubber Tired Dozers	1	8	247	0.4			
Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	3	8	97	0.37			
Building Construction							**Default**	**Default**
Cranes	Cranes	1	7	231	0.29			
Forklifts	Forklifts	3	8	89	0.2			
Generator Sets	Generator Sets	1	8	84	0.74			
Tractors/Loaders/Backhoes	Tractors/Loaders/Backhoes	3	7	97	0.37			
Welders	Welders	1	8	46	0.45			
Asphalt Paving							**Default**	**Default**
Pavers	Pavers	2	8	130	0.42			
Paving Equipment	Paving Equipment	2	8	132	0.36			
Rollers	Rollers	2	8	80	0.38			

CalEEMod Construction Run Land Use Inputs: Phase 1

Name:	Jackson Ranch Specific Plan
Project Location:	Kings County SJVAPCD
Climate Zone:	3
Land Use Setting:	Rural
Operational Year:	2024
Utility Company:	PG&E

Land Use	Land Use Amount	Metric	Acres	
Other				
Utica Demolition Area	0.21	acres	0.21	
Phase 1				
Regional Shopping Center	11,980	building square fe	0.28	
Fast Food Restaurant w/Drive Thru	9,847	BSF	0.23	
High-Turnover Sit-Down Restaurant	10,026	BSF	0.23	
Convenience Market/Gas Station	12,369	BSF	0.28	
Motel	187	Rooms	0.61	106,131
Truck Stop	10,892	BSF	0.25	
Passenger Vehicle Parking Lot	795	spaces	2.96	128,790
Truck Stop Parking Lot	121,680	SF	2.79	
Internal Accessways	414,150	SF	9.51	9.507575758
Landscaping	354,338	SF	8.13	
Misc Asphalt	79,871	SF	1.83	

Type	Land Use Type	Land Use Unit Amount	Land Use Size Metric	Lot Acreage	Land Use Square Feet
Retail	Regional Shopping Center	11.980	1000bsf	0.28	11,980
Recreational	Fast-Food Restaurant w/Drive Thru	9.847	1000bsf	0.23	9,847
Recreational	High-Turnover Sit-Down Restaurant	10.026	1000bsf	0.23	10,026
Retail	Convenience Mart/Gas Station	23.261	1000bsf	0.53	23,261
Recreational	Motel	187	Rooms	0.61	106,131
Parking	Other Asphalt Surfaces	5.750	Acre	5.75	250,470
Parking	Other Asphalt	11.341	Acre	11.34	494,021.3
Parking	Other Non-Asphalt	354.338	1000bsf	8.34	0.0
				27.31	**905,736**

Asphalt Demolition

Total Demolition Debris Volume:	1,256	tons
*Demo Debris Reprocessed:**	628	tons
*Demo Debris Hauled Offsite:**	628	tons

**Assumes 50% of total demoliion debris would be reprocessed and reused.*

Phases	Amount to be Hauled (tons)*	Haul Truck Capacity (tons)**	Haul Distance (mile)*	Total Trip Ends	Duration (days)	Trip Ends/Day
Asphalt Demo Debris Haul	628	20	20.00	64	39	2

**Assumes would be hauled to the Avenall Landfill.*

***Based on CalEEMod assumption of 1.2641662 tons per cubic yard and the CalEEMod assumed 16 CY haul truck capacity.*

Architectural Coating

VOC content of 150 grams per liter (CalEEMod default), per SJVAPCD Rule 4601, *Architectural Coatings* .

Land Use	Land Use Amount (BSF)	CalEEMod Paintable Surface Area Multiplier*	Total Paintable Surface Area (BSF)	Total Paintable Interior Surface Area (BSF)*	Total Paintable Exterior Surface Area (BSF)*
Regional Shopping Center	11,980	2.0	23,960	17,970	5,990
Fast-Food Restaurant w/Drive Thru	9,847	2.0	19,694	14,771	4,924
High-Turnover Sit-Down Restaurant	10,026	2.0	20,052	15,039	5,013
Convenience Mart/Gas Station	23,261	2.0	46,522	34,892	11,631
Motel	106,131	2.0	212,262	159,197	53,066
			Non-Residential Sub-Total	***241,868***	***80,623***
Other Asphalt Surfaces	250,470	0.06	15,028	n/a	15,028
			Parking Sub-Total	***0***	***15,028***

**Based on CalEEMod methodology in calculating the paintable surface areas for a nonresidential building and parking lot.*

Construction Phasing: Phase 1

5-Day Work Week

CalEEMod Default Schedule

Phase Name*	Start Date	End Date	CalEEMod Days		
Demolition	1/1/2021	2/11/2021	30		30
Site Preparation	2/12/2021	3/11/2021	20		20
Grading	3/12/2021	5/13/2021	45		45
Building Construction	5/14/2021	1/19/2023	440		440
Paving	1/20/2023	3/9/2023	35		35
Architectural Coating	3/10/2023	4/27/2023	35		35
		Duration	605.0	days	

Adjusted CalEEMod Default Schedule - Normalized for 2023 buildout.

Phase Name	Start Date	End Date	CalEEMod Days
Main_Demolition	1/1/2021	2/24/2021	39
Demolition Debris Onsite Reprocessing	1/1/2021	2/24/2021	39
Main_Site Preparation	2/25/2021	4/1/2021	26
Main_Grading	4/2/2021	6/22/2021	58
Main_Building Construction	6/23/2021	8/25/2023	568
Main_Paving	8/26/2023	10/27/2023	45
Main_Architectural Coating***	10/28/2023	12/29/2023	45

***CalEEMod default schedule.**

****Assumes duration as 33 percent of the Building Construction phase duration.**

Construction Equipment Mix: Phase 1

Equipment	Pieces of Equipment	Hrs Op	HP	LF	Tier Rating	Worker Trips/ Day	CalEEMod Vendor
Demolition						**Default**	**Default+4**
Concrete/Industrial Saws	**1**	8	**81**	**0.40**	**4**		
Excavators	**3**	8	**158**	**0.37**			
Rubber Tired Dozers	**2**	8	**247**	**0.40**			
Water truck*	**1**						**4**
Onsite Demolition Debris Onsite Reprocessing						**Default**	**Default**
Crushing/Proc. Equipment	**1**	8	**325**	**0.78**	**4**		
Site Preparation						**Default**	**Default+4**
Rubber Tired Dozers	**3**	8	**247**	**0.40**	**4**		
Tractors/Loaders/Backhoes	**4**	8	**97**	**0.37**			
Water truck*	**1**						**4**
Rough Grading						**Default**	**Default+4**
Excavators	**2**	8	**158**	**0.38**	**4**		
Graders	**1**	8	**157**	**0.41**			
Rubber Tired Dozers	**1**	8	**247**	**0.40**			
Scrapers	**2**	8	**367**				
Tractors/Loaders/Backhoes	**2**	8	**97**	**0.37**			
Water truck*	**1**						**4**
Building Construction*						**Default**	**Default**
Cranes	**1**	7	**231**	**0.29**	**4**		
Forklifts	**3**	8	**89**	**0.20**			
Generator Sets	**1**	8	**84**	**0.74**			
Tractors/Loaders/Backhoes	**3**	7	**97**	**0.37**	**4**		
Welders	**1**	8	**46**	**0.45**			
Asphalt Paving						**Default**	**Default**
Pavers	**2**	8	**130**	**0.42**	**4**		
Paving Equipment	**2**	8	**132**	**0.36**	**4**		
Rollers	**2**	8	**80**	**0.38**			
Architectural Coating						**Default**	**Default**
Air Compressors	**1**	6	**78**	**0.48**			

*Assumes water truck and four trips per day for the water truck.

CalEEMod Construction Run Land Use Inputs: Phase 1 Roadways

Name:	Jackson Ranch Specific Plan
Project Location:	Kings County SJVAPCD
Climate Zone:	3
Land Use Setting:	Rural
Operational Year:	2021
Utility Company:	PG&E

Land Use	Land Use Amount	Metric		
Other				
Phase 1 Roadways	6.600	acres		6.600

Type	Land Use Type	Land Use Unit Amount	Land Use Size Metric	Lot Acreage	Land Use Square Feet
Parking Lot	Other Asphalt	6.600	acre	6.60	287,496

Architectural Coating

VOC content of 150 grams per liter (CalEEMod default), per SJVAPCD Rule 4601, *Architectural Coatings* .

Land Use	Land Use Amount (BSF)	CalEEMod Paintable Surface Area Multiplier*	Total Paintable Surface Area (BSF)	Total Paintable Interior Surface Area (BSF)*	Total Paintable Exterior Surface Area (BSF)*
Parking Lot	287,496	0.06	17,250	n/a	17,250
			Parking Sub-Total	***0***	***17,250***

Construction Phasing: Phase 1 Roadways

5-Day Work Week

CalEEMod Default Schedule

Phase Name*	Start Date	End Date	Calendar Days		
Grading (Subfill/base)	3/18/2016	3/31/2016	13		10
Paving (Aggregate Base)	4/1/2016	5/17/2016	46		33
Pavement (Topcoat)	5/18/2016	7/1/2016	44		33
		Duration	3.75	Acres	

Adjusted CalEEMod Default Schedule - (Normalized for 6.6-Acre Site)

Phase Name	Start Date	End Date	Calendar Days	Workdays
Road_Grading (Subfill/base)	1/1/2021	1/24/2021	23	16
Road_Paving (Aggregate Base)	1/25/2021	4/16/2021	81	60
Road_Pavement (Topcoat)	4/19/2021	7/5/2021	77	56
			181.0	

***Based on a 3.75-acre roadway widening project.**

Construction Equipment Mix: Phase 1 Roadways

*Based on other roadway improvement projects.

Type of Equipment	Pieces of Equipment	Hrs Op	HP	LF	Worker Trips/ Day	CalEEMod Vendor Trips
Excavation/Removal of Fill/Sub-Base Material					**Default**	**Default**
Tractors/Loaders/Backhoes	**3**	8	**97**	**0.37**		
Foundation (Aggregate Base/Base)					**Default**	**Default + 10**
Paving Machine	**1**	8	**132**	**0.36**		
Roller	**2**	8	**80**	**0.38**		
Vendor Trips (assume 10/day)						**10**
Paving (Topcoat)					**Default**	**Default + 10**
Paver	**1**	8	**130**	**0.42**		
Roller	**2**	8	**80**	**0.38**		
Vendor Trips (assume 10/day)						**10**

Pavement Volume to Weight Conversion

Location	Total SF of Area[1]	Assumed Thickness (foot)[2]	Pool Debris Volume (cu. ft)	Weight of Crushed Asphalt (lbs/cf)[3]	AC Mass (lbs)	AC Mass (tons)
25th Ave for Water Pipeline	295,152	0.45	133,064	89	11,827,943	5,914
Utica Avenue	44,062	0.45	19,865	89	1,765,744	882.87
Phase 1 25th Avenue	18,600	0.45	8,386	89	745,378	372.69
Phase 2 25th Avenue	99,435	0.45	44,829	89	3,984,766	1992.38
		0.45	0	89	-	0.00
		0.45	0			0.00
					TOTAL	**9,162**

[1] Based on measurements using Google Maps and the proposed site plan.

[2] *Pavements and Surface Materials*. Nonpoint Education for Municipal Officials, Technical Paper Number 8. University of Conneticut Cooperative Extension System, 1999.

[3] Based on 2,400 pounds per cubic yard. http://www.calrecycle.ca.gov/swfacilities/cdi/Tools/Calculations.htm

CalEEMod Construction Run Land Use Inputs: Phase 2

Name:	Jackson Ranch Specific Plan
Project Location:	Kings County SJVAPCD
Climate Zone:	3
Land Use Setting:	Rural
Operational Year:	2040
Utility Company:	PG&E

Land Use	Land Use Amount	Metric	Acres	
Other				
Phase 2 Roadways	12.650	acres	12.650	
Phase 2				#REF!
Freeway Incubator	470,448	BSF	10.8000	
Business Center	1,864,149	BSF	42.7950	
Misc Asphalt	2,636,035	SF	60.5150	

Type	Land Use Type	Land Use Unit Amount	Land Use Size Metric	Lot Acreage	Land Use Square Feet
Industrial	General Light Industrial	470.448	1000bsf	10.80	470,448
Industrial	Unrefrigerated Warehouse - No Rail	1,864.149	1000bsf	42.79	1,864,149
Parking	Other Asphalt	60.515	Acre	60.52	2,636,035
				114.11	**4,970,632**

Asphalt Demolition

Total Demolition Debris Volume:	1,992	tons
*Demo Debris Reprocessed:**	996	tons
*Demo Debris Hauled Offsite:**	996	tons

**Assumes 50% of total demoliion debris would be reprocessed and reused.*

Phases	Amount to be Hauled (tons)*	Haul Truck Capacity (tons)**	Haul Distance (mile)*	Total Trip Ends	Duration (days)
Asphalt Demo Debris Haul	996	20	20.00	100	39

**Assumes would be hauled to the Avenall Landfill.*

***Based on CalEEMod assumption of 1.2641662 tons per cubic yard and the CalEEMod assumed 16 CY haul truck capacity.*

Architectural Coating

VOC content of 150 grams per liter (CalEEMod default), per SJVAPCD Rule 4601, *Architectural Coatings* .

Land Use	Land Use Amount (BSF)	CalEEMod Paintable Surface Area Multiplier*	Total Paintable Surface Area (BSF)	Total Paintable Interior Surface Area (BSF)*	Total Paintable Exterior Surface Area (BSF)*
General Light Industrial	470,448	2.0	940,896	705,672	235,224
Unrefrigerated Warehouse - No Rail	1,864,149	2.0	3,728,298	2,796,224	932,075
		Non-Residential Sub-Total		***3,501,896***	***1,167,299***
Other Asphalt	2,636,035	0.06	158,162	n/a	158,162
			Parking Sub-Total	***0***	***158,162***

**Based on CalEEMod methodology in calculating the paintable surface areas for a nonresidential building and parking lot.*

Mitigation Scenario

Architectural Coating: Require interior and exterior paints for buildings to have a VOC content of 50 grams/liter or less.

Construction Equipment: Require construction equipment of 50 horsepower or more to be meet Tier 4 Interim emissions standards.

Construction Phasing: Phase 2

5-Day Work Week

CalEEMod Default Schedule

Phase Name*	Start Date	End Date	CalEEMod Days	
Demolition	1/1/2024	10/4/2024	200	30
Site Preparation	10/5/2024	3/21/2025	120	20
Grading	3/22/2025	5/29/2026	310	45
Building Construction	5/30/2026	4/16/2038	3,100	440
Paving	4/17/2038	2/18/2039	220	35
Architectural Coating	2/19/2039	12/23/2039	220	35
		Duration	4170.0 days	

Adjusted CalEEMod Default Schedule - with Overlap (Normalized for 17 year Buildout)

Phase Name	Start Date	End Date	CalEEMod Days
Main_Demolition*	1/1/2024	1/26/2024	20
Demolition Debris Onsite Reprocessing	1/1/2024	1/26/2024	20
Main_Site Preparation	1/1/2024	6/26/2024	128
Main_Grading	1/1/2024	4/4/2025	330
Main_Building Construction	1/1/2024	8/20/2036	3,298
Main_Paving	1/1/2024	11/21/2024	234
Main_Architectural Coating***	1/1/2024	11/21/2024	234

***CalEEMod default schedule.**

****Assumes duration as 33 percent of the Building Construction phase duration.**

CalEEMod Construction Off-Road Equipment Inputs: Phase 2*

*Based on CalEEMod defaults, unless otherwise noted.

Equipment Type	Unit Amount	Hours/Day	HP	LF*	Tier Rating	Worker Trips	CalEEMod Vendor Trips
Demolition						**Default**	**Default+4**
Concrete/Industrial Saws	**1**	8	**81**	**0.73**			
Excavators	**3**	8	**158**	**0.38**			
Rubber Tired Dozers	**2**	8	**247**	**0.40**			
Water truck*	**1**						**4**
Onsite Demolition Debris Onsite Reprocessing**						**Default**	**Default**
Crushing/Proc. Equipment	**1**	8	**325**	**0.78**			
Site Preparation						**Default**	**Default+4**
Rubber Tired Dozers	3	8	247	0.4			
Tractors/Loaders/Backhoes	4	8	97	0.37			
Water truck*	**1**						**4**
Grading						**Default**	**Default+4**
Excavators	2	8	158	0.38			
Graders	1	8	187	0.41			
Rubber Tired Dozers	1	8	247	0.4			
Scrapers	2	8	367	0.48			
Tractors/Loaders/Backhoes	**2**	8	**97**	**0.37**			
Water truck*	**1**						**4**
Building Construction						**Default**	**Default**
Cranes	1	7	231	0.29			
Forklifts	3	8	89	0.2			
Generator Sets	1	8	84	0.74			
Tractors/Loaders/Backhoes	3	7	97	0.37			
Welders	1	8	46	0.45			
Asphalt Paving						**Default**	**Default**
Pavers	2	8	130	0.42			
Paving Equipment	2	8	132	0.36			
Rollers	2	8	80	0.38			
Architectural Coating						**Default**	**Default**
Air Compressors	1	6	78	0.48			

*Assumes water truck and four trips per day for the water truck.

**Assumed

CalEEMod Construction Run Land Use Inputs: Phase 2 Roadway

Name:	Jackson Ranch Specific Plan
Project Location:	Kings County SJVAPCD
Climate Zone:	3
Land Use Setting:	Rural
Operational Year:	
Utility Company:	PG&E

Land Use	Land Use Amount	Metric	Acre
Other			
Phase 2 Roadways	12.650	acres	12.650

Type	Land Use Type	Land Use Unit Amount	Land Use Size Metric	Lot Acreage	Land Use Square Feet
Parking Lot	Other Asphalt	12.650	acre	12.65	551,034

Architectural Coating

VOC content of 150 grams per liter (CalEEMod default), per SJVAPCD Rule 4601, *Architectural Coatings* .

Land Use	Land Use Amount (BSF)	CalEEMod Paintable Surface Area Multiplier*	Total Paintable Surface Area (BSF)	Total Paintable Interior Surface Area (BSF)*	Total Paintable Exterior Surface Area (BSF)*
Parking Lot	551,034	0.06	33,062	n/a	33,062
			Parking Sub-Total	***0***	***33,062***

Construction Phasing: Phase 2 Roadway

5-Day Work Week

CalEEMod Default Schedule

Phase Name*	Start Date	End Date	Calendar Days	Workdays
Grading (Subfill/base)	3/18/2016	3/31/2016	13	10
Paving (Aggregate Base)	4/1/2016	5/17/2016	46	33
Pavement (Topcoat)	5/18/2016	7/1/2016	44	33
		Duration	3.75	Acres

Adjusted CalEEMod Default Schedule - (Normalized for 12.65-Acre Site)

Phase Name	Start Date	End Date	Calendar Days	Workdays
Road_Grading (Subfill/base)	1/1/2024	2/14/2024	44	33
Road_Paving (Aggregate Base)	2/15/2024	7/19/2024	155	112
Road_Pavement (Topcoat)	7/22/2024	12/17/2024	148	107

***Based on a 3.75-acre roadway widening project.**

Construction Equipment Mix: Phase 2 Roadway

*Based on other roadway improvement projects.

Type of Equipment	Pieces of Equipment	Hrs Op	HP	LF	Worker Trips/ Day	CalEEMod Vendor Trips
Excavation/Removal of Fill/Sub-Base Material					**Default**	**Default**
Tractors/Loaders/Backhoes	**3**	8	**97**	**0.37**		
Foundation (Aggregate Base/Base)					**Default**	**Default + 10**
Paving Machine	**1**	8	**132**	**0.36**		
Roller	**2**	8	**80**	**0.38**		
Vendor Trips (assume 10/day)						**10**
Paving (Topcoat)					**Default**	**Default + 10**
Paver	**1**	8	**130**	**0.42**		
Roller	**2**	8	**80**	**0.38**		
Vendor Trips (assume 10/day)						**10**

*Default=CalEEMod defaults

EMFAC2017 Derived CalEEMod Annual Emission Rates: Year 2023[1,2]

Season	Pollutant	LDA	LDT1	LDT2	MDV	LHDT1	LHDT2	MHDT	HHDT	OBUS	UBUS	MCY	SBUS	MH
Annual	CH4_IDLEX	0	0	0	0	0.0040764	0.002811619	0.004125109	0.024468105	0.009089	0	0	0.0196745	0
Annual	CH4_RUNEX	0.001942	0.0059316	0.0039963	0.0041523	0.0099111	0.0072239	0.002378459	0.002431313	0.013611	0.0036811	0.3250552	0.0084965	0.0060216
Annual	CH4_STREX	0.0468464	0.0751247	0.0701499	0.0842772	0.0124363	0.007575295	0.010908364	6.3129E-08	0.0259718	0.0100411	0.2548875	0.002133	0
Annual	CO_IDLEX	0	0	0	0	0.1583416	0.12824886	0.430807845	7.733440782	0.5200489	0	0	1.0671452	0
Annual	CO_RUNEX	0.5614868	1.2429728	0.9073304	0.9067606	0.9569273	0.68122706	0.313192802	0.222678644	1.5357249	0.0385401	19.807131	0.6789796	0.4747997
Annual	CO_STREX	2.112643	2.3490805	2.7304878	3.215844	0.8412815	0.50661088	1.269019335	0.001987066	3.0738838	0.8788766	8.8981869	0.3271027	0
Annual	CO2_NBIO_IDLEX	0	0	0	0	9.5912701	14.87852631	81.68358857	1263.370532	67.877814	0	0	330.15616	0
Annual	CO2_NBIO_RUNEX	254.66507	303.72775	325.00917	407.57052	756.26461	764.2543788	1166.543371	1328.149734	1588.7214	293.6905	211.78822	1109.4382	1037.8608
Annual	CO2_NBIO_STREX	51.944362	63.278102	68.175887	86.274638	9.1016588	6.642976928	10.75744869	0.029427523	22.954278	9.6891827	61.908289	1.5622578	0
Annual	NOX_IDLEX	0	0	0	0	0.0963643	0.121680569	0.503403212	6.240296716	0.2376196	0	0	3.9991639	0
Annual	NOX_RUNEX	0.0320529	0.1123425	0.0860067	0.0877828	1.4555004	1.259266898	1.689989391	2.361866419	1.1288172	0.0539653	1.1594302	7.0621122	5.0404396
Annual	NOX_STREX[3]	0.1725053	0.2681526	0.2889544	0.3605505	0.2646697	0.167087312	1.678559016	2.252164633	0.607947	0.0907697	0.2669765	0.6598914	0
Annual	PM10_IDLEX	0	0	0	0	0.0011274	0.0015189	0.000571389	0.002391844	8.115E-05	0	0	0.0052514	0
Annual	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.089180026	0.130340037	0.061608387	0.13034	0.0237089	0.01176	0.7448002	0.13034
Annual	PM10_PMTW	0.008	0.008	0.008	0.008	0.0102515	0.010926723	0.012000003	0.03591822	0.012	0.0026268	0.004	0.0114162	0.016
Annual	PM10_RUNEX	0.0013314	0.0019882	0.0014681	0.0014316	0.0179954	0.019539104	0.00866221	0.027067459	0.0059503	0.000684	0.0018137	0.0435899	0.122948
Annual	PM10_STREX	0.0017956	0.0026107	0.0019141	0.0018935	0.0002023	0.000102807	0.000129341	3.83056E-07	0.0002622	0.0001172	0.0029499	2.081E-05	0
Annual	PM25_IDLEX	0	0	0	0	0.0010786	0.001453193	0.000546671	0.002288374	7.764E-05	0	0	0.0050242	0
Annual	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.038220011	0.055860016	0.026403595	0.05586	0.0101609	0.00504	0.3192001	0.05586
Annual	PM25_PMTW	0.002	0.002	0.002	0.002	0.0025629	0.002731681	0.003000001	0.008979555	0.003	0.0006567	0.001	0.002854	0.004
Annual	PM25_RUNEX	0.0012261	0.0018302	0.0013517	0.0013211	0.0171788	0.018673739	0.008280587	0.025896523	0.0056654	0.0006418	0.001697	0.0416939	0.1176294
Annual	PM25_STREX	0.0016511	0.0024006	0.00176	0.0017413	0.000186	9.45276E-05	0.000118924	3.52206E-07	0.000241	0.0001078	0.0027794	1.913E-05	0
Annual	ROG_DIURN	0.057684	0.1826562	0.111692	0.1301654	0.0026414	0.001306567	0.0007619	2.47503E-06	0.0039409	0.0006858	1.5967731	0.0005388	0
Annual	ROG_HTSK	0.0936909	0.2402105	0.150105	0.1775545	0.0706346	0.037639577	0.02434346	8.66804E-05	0.0345308	0.0035734	0.9363585	0.0036706	0
Annual	ROG_IDLEX	0	0	0	0	0.0187276	0.015154121	0.020834765	0.524176628	0.0490667	0	0	0.1032619	0
Annual	ROG_RESTL	0.0433233	0.121138	0.0856684	0.1078409	0.0011476	0.000597489	0.000338392	1.27719E-06	0.001265	0.000259	0.8582112	0.0001568	0
Annual	ROG_RUNEX	0.0072282	0.0261643	0.0166953	0.0174901	0.1266071	0.124018647	0.02190129	0.022076908	0.0720452	0.0030481	2.2040033	0.1190902	0.1296409
Annual	ROG_RUNLS	0.2079347	0.8211824	0.5077638	0.5533066	0.4610115	0.228342807	0.138455208	0.000393473	0.420752	0.0128845	2.1294939	0.0245001	0
Annual	ROG_STREX	0.2037351	0.3799199	0.3316415	0.4220239	0.0631705	0.037708665	0.057312612	3.29628E-07	0.1365402	0.0401934	1.9296676	0.0123132	0
Annual	SO2_IDLEX	0	0	0	0	9.24E-05	0.00014194	0.000775051	0.0119325	0.0006485	0	0	0.0031277	0
Annual	SO2_RUNEX	0.0025193	0.0030056	0.0032154	0.0040293	0.0073436	0.007361088	0.011126922	0.012539794	0.0155118	0.002874	0.0020958	0.0105371	0.0098115
Annual	SO2_STREX	0.000514	0.0006262	0.0006747	0.0008538	9.007E-05	6.57376E-05	0.000106454	2.91209E-07	0.0002272	9.588E-05	0.0006126	1.546E-05	0
Annual	TOG_DIURN	0.0577185	0.1827657	0.111759	0.1302435	0.0026414	0.001306567	0.0007619	2.47503E-06	0.0039409	0.0006858	1.5967731	0.0005388	0
Annual	TOG_HTSK	0.093747	0.2403546	0.150195	0.177661	0.0706346	0.037639577	0.02434346	8.66804E-05	0.0345308	0.0035734	0.9363585	0.0036706	0
Annual	TOG_IDLEX	0	0	0	0	0.0258708	0.020181935	0.028292645	0.596857652	0.0658955	0	0	0.1431306	0
Annual	TOG_RESTL	0.0433492	0.1212107	0.0857198	0.1079056	0.0011476	0.000597489	0.000338392	1.27719E-06	0.001265	0.000259	0.8582112	0.0001568	0
Annual	TOG_RUNEX	0.0105155	0.0381714	0.0243307	0.0254037	0.1524318	0.143684443	0.027642187	0.026588387	0.1034408	0.007111	2.7065839	0.1417041	0.1475876
Annual	TOG_RUNLS	0.2080595	0.8216751	0.5080684	0.5536386	0.4610115	0.228342807	0.138455208	0.000393473	0.420752	0.0128845	2.1294939	0.0245001	0
Annual	TOG_STREX	0.2232199	0.4162547	0.3633593	0.4623817	0.0691637	0.041286242	0.062750096	3.60901E-07	0.1494943	0.0440067	2.0994906	0.0134814	0
Summer	CH4_IDLEX	0	0	0	0	0.0040879	0.002819334	0.00388077	0.025917747	0.0091629	0	0	0.0196722	0
Summer	CH4_RUNEX	0.0022645	0.006831	0.0046272	0.004832	0.0101029	0.007277382	0.002434805	0.002432618	0.0140806	0.0037038	0.3196393	0.0086185	0.0060216
Summer	CH4_STREX	0.0395402	0.0628953	0.0590268	0.0710024	0.0117859	0.007180206	0.010352679	5.9449E-08	0.0243701	0.0089374	0.2181261	0.0017044	0
Summer	CO_IDLEX	0	0	0	0	0.1583416	0.12824886	0.358729899	7.63212453	0.5164444	0	0	1.0220172	0
Summer	CO_RUNEX	0.7041869	1.5300839	1.1262976	1.1252255	0.9734647	0.685327572	0.318995777	0.223096337	1.5861267	0.0394603	20.15297	0.6927978	0.4747997
Summer	CO_STREX	1.7692246	1.959717	2.2742725	2.670377	0.7818263	0.471254377	1.178337702	0.001845216	2.7888723	0.7163596	8.0338392	0.2172335	0
Summer	CO2_NBIO_IDLEX	0	0	0	0	9.5912701	14.87852631	81.95303084	1247.079944	67.185311	0	0	341.7113	0
Summer	CO2_NBIO_RUNEX	279.75399	329.76396	350.35303	434.16555	756.2954	764.2618246	1166.553728	1328.150432	1588.8124	293.69223	212.15499	1109.4628	1037.8608
Summer	CO2_NBIO_STREX	51.287357	62.444479	67.26685	85.173724	8.9956324	6.579903336	10.6032062	0.02920262	22.473316	9.4163269	59.57007	1.3797885	0
Summer	NOX_IDLEX	0	0	0	0	0.0963643	0.121680569	0.49680036	5.934771418	0.2258778	0	0	4.105667	0
Summer	NOX_RUNEX	0.0301394	0.1043721	0.0803093	0.0820954	1.3804594	1.197362517	1.606143829	2.250935445	1.045074	0.0517431	1.0088248	6.7111761	4.8011672
Summer	NOX_STREX[3]	0.1621877	0.2518202	0.2715554	0.3388068	0.2495515	0.157546253	1.672840334	2.25211266	0.592508	0.0852359	0.2477407	0.658719	0
Summer	PM10_IDLEX	0	0	0	0	0.0011274	0.0015189	0.000485068	0.002117833	7.21E-05	0	0	0.0044334	0
Summer	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.089180026	0.130340037	0.061608387	0.13034	0.0237089	0.01176	0.7448002	0.13034
Summer	PM10_PMTW	0.008	0.008	0.008	0.008	0.0102515	0.010926723	0.012000003	0.03591822	0.012	0.0026268	0.004	0.0114162	0.016
Summer	PM10_RUNEX	0.0013314	0.0019882	0.0014681	0.0014316	0.0179954	0.019539104	0.00866221	0.027067459	0.0059503	0.000684	0.0018137	0.0435899	0.122948
Summer	PM10_STREX	0.0017956	0.0026107	0.0019141	0.0018935	0.0002023	0.000102807	0.000129341	3.83056E-07	0.0002622	0.0001172	0.0029499	2.081E-05	0
Summer	PM25_IDLEX	0	0	0	0	0.0010786	0.001453193	0.000464085	0.002026217	6.899E-05	0	0	0.0042416	0
Summer	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.038220011	0.055860016	0.026403595	0.05586	0.0101609	0.00504	0.3192001	0.05586
Summer	PM25_PMTW	0.002	0.002	0.002	0.002	0.0025629	0.002731681	0.003000001	0.008979555	0.003	0.0006567	0.001	0.002854	0.004
Summer	PM25_RUNEX	0.0012261	0.0018302	0.0013517	0.0013211	0.0171788	0.018673739	0.008280587	0.025896523	0.0056654	0.0006418	0.001697	0.0416939	0.1176294
Summer	PM25_STREX	0.0016511	0.0024006	0.00176	0.0017413	0.000186	9.45276E-05	0.000118924	3.52206E-07	0.000241	0.0001078	0.0027794	1.913E-05	0
Summer	ROG_DIURN	0.1364673	0.4371765	0.2631752	0.3035185	0.0062453	0.003077358	0.001824266	6.05679E-06	0.0093248	0.0016646	4.0106036	0.0012982	0
Summer	ROG_HTSK	0.1116161	0.3050193	0.1819003	0.2071976	0.0845382	0.045162611	0.029766847	9.81394E-05	0.0391656	0.0050805	1.4523458	0.004247	0
Summer	ROG_IDLEX	0	0	0	0	0.0187276	0.015154121	0.020030164	0.555362699	0.0501317	0	0	0.1027221	0
Summer	ROG_RESTL	0.0914988	0.2603789	0.1788953	0.2210273	0.0023726	0.00122773	0.000724974	2.76363E-06	0.002516	0.0005911	2.1736486	0.0003286	0
Summer	ROG_RUNEX	0.008317	0.0299499	0.019152	0.020103	0.1276675	0.124238056	0.022169852	0.022085219	0.0746305	0.0031111	2.1523319	0.1197258	0.1296409
Summer	ROG_RUNLS	0.2028559	0.8007709	0.4945513	0.5398602	0.4589152	0.227335539	0.13870231	0.000397426	0.419355	0.0123726	2.0800647	0.0211329	0
Summer	ROG_STREX	0.1697338	0.314938	0.2756767	0.350927	0.0596593	0.035614005	0.054182871	3.11628E-07	0.1278418	0.0356489	1.6382656	0.009835	0
Summer	SO2_IDLEX	0	0	0	0	9.24E-05	0.00014194	0.000777766	0.011778567	0.0006419	0	0	0.0032369	0
Summer	SO2_RUNEX	0.0027676	0.0032632	0.0034662	0.0042925	0.0073439	0.007361161	0.011127024	0.012539801	0.0155127	0.002874	0.0020994	0.0105373	0.0098115
Summer	SO2_STREX	0.0005075	0.0006179	0.0006657	0.0008429	8.902E-05	6.51135E-05	0.000104927	2.88984E-07	0.0002224	9.318E-05	0.0005895	1.365E-05	0
Summer	TOG_DIURN	0.136549	0.4374388	0.2633331	0.3037006	0.0062453	0.003077358	0.001824266	6.05679E-06	0.0093248	0.0016646	4.0106036	0.0012982	0
Summer	TOG_HTSK	0.111683	0.3052023	0.1820095	0.2073219	0.0845382	0.045162611	0.029766847	9.81394E-05	0.0391656	0.0050805	1.4523458	0.004247	0
Summer	TOG_IDLEX	0	0	0	0	0.0258708	0.020181935	0.027051275	0.632361731	0.067108	0	0	0.142516	0
Summer	TOG_RESTL	0.0915536	0.2605351	0.1790026	0.2211599	0.0023726	0.00122773	0.000724974	2.76363E-06	0.002516	0.0005911	2.1736486	0.0003286	0
Summer	TOG_RUNEX	0.0121049	0.0436966	0.0279164	0.0292115	0.1539792	0.144004604	0.028034072	0.026600515	0.1072133	0.007203	2.6456216	0.1426316	0.1475876
Summer	TOG_RUNLS	0.2029776	0.8012514	0.4948481	0.5401841	0.4589152	0.227335539	0.13870231	0.000397426	0.419355	0.0123726	2.0800647	0.0211329	0
Summer	TOG_STREX	0.1859667	0.345058	0.302042	0.384486	0.0653195	0.038992853	0.059323424	3.41193E-07	0.1399706	0.039031	1.7825146	0.0107681	0

Winter	CH4_IDLEX	0	0	0	0	0.0040628	0.002802544	0.004361153	0.022345818	0.008993	0	0	0.019685	0
Winter	CH4_RUNEX	0.0017835	0.0055033	0.003692	0.0038316	0.0096989	0.007162157	0.00231231	0.001047754	0.0130703	0.0036558	0.338334	0.0083659	0.0060216
Winter	CH4_STREX	0.0547995	0.0885852	0.0823064	0.0988158	0.0132167	0.008048923	0.011601952	6.77502E-08	0.0278645	0.0113397	0.3074998	0.002595	0
Winter	CO_IDLEX	0	0	0	0	0.1583416	0.12824886	0.50518305	7.871464473	0.5250265	0	0	1.1294649	0
Winter	CO_RUNEX	0.5144982	1.1515241	0.8363818	0.8373844	0.9388846	0.676684718	0.306527994	0.219694638	1.4784638	0.0375448	21.397356	0.6645288	0.4747997
Winter	CO_STREX	2.6146592	2.9165962	3.3882335	4.0012793	0.9198432	0.553106116	1.391100748	0.002177792	3.446531	1.0853273	10.522288	0.459492	0
Winter	CO2_NBIO_IDLEX	0	0	0	0	9.5912701	14.87852631	81.45603854	1285.53249	68.834128	0	0	314.19906	0
Winter	CO2_NBIO_RUNEX	244.4441	293.14309	314.69547	396.74861	756.23104	764.2460865	1166.531449	1327.279199	1588.6179	293.68862	214.72556	1109.4124	1037.8608
Winter	CO2_NBIO_STREX	52.867594	64.426624	69.430057	87.789529	9.2404244	6.725164418	10.96406344	0.029729914	23.579559	10.034542	65.908586	1.7810793	0
Winter	NOX_IDLEX	0	0	0	0	0.0963643	0.121680569	0.512541685	6.659705707	0.2538344	0	0	3.8520882	0
Winter	NOX_RUNEX	0.0351444	0.1239237	0.0946659	0.0965118	1.489105	1.285531238	1.724239243	2.405066173	1.1785719	0.0554914	1.2696847	7.2068478	5.1344679
Winter	NOX_STREX[3]	0.1918068	0.2980884	0.3212515	0.4008848	0.2844742	0.17959202	1.686055107	2.252232018	0.6281778	0.0975324	0.2904268	0.6611847	0
Winter	PM10_IDLEX	0	0	0	0	0.0011274	0.0015189	0.000690593	0.002760389	9.363E-05	0	0	0.006381	0
Winter	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.089180026	0.130340037	0.061591494	0.13034	0.0237089	0.01176	0.7448002	0.13034
Winter	PM10_PMTW	0.008	0.008	0.008	0.008	0.0102515	0.010926723	0.012000003	0.03590837	0.012	0.0026268	0.004	0.0114162	0.016
Winter	PM10_RUNEX	0.0013314	0.0019882	0.0014681	0.0014316	0.0179954	0.019539104	0.00866221	0.027063386	0.0059503	0.000684	0.0018137	0.0435899	0.122948
Winter	PM10_STREX	0.0017956	0.0026107	0.0019141	0.0018935	0.0002023	0.000102807	0.000129341	3.83056E-07	0.0002622	0.0001172	0.0029499	2.081E-05	0
Winter	PM25_IDLEX	0	0	0	0	0.0010786	0.001453193	0.000660719	0.002640976	8.958E-05	0	0	0.0061049	0
Winter	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.038220011	0.055860016	0.026396354	0.05586	0.0101609	0.00504	0.3192001	0.05586
Winter	PM25_PMTW	0.002	0.002	0.002	0.002	0.0025629	0.002731681	0.003000001	0.008977092	0.003	0.0006567	0.001	0.002854	0.004
Winter	PM25_RUNEX	0.0012261	0.0018302	0.0013517	0.0013211	0.0171788	0.018673739	0.008280587	0.025892627	0.0056654	0.0006418	0.001697	0.0416939	0.1176294
Winter	PM25_STREX	0.0016511	0.0024006	0.00176	0.0017413	0.000186	9.45276E-05	0.000118924	3.52206E-07	0.000241	0.0001078	0.0027794	1.913E-05	0
Winter	ROG_DIURN	0.0170825	0.0528572	0.0334232	0.0400283	0.0008041	0.000408174	0.000224744	7.20045E-07	0.0012299	0.0001938	0.3927302	0.0001618	0
Winter	ROG_HTSK	0.0924262	0.2377896	0.1482205	0.1751777	0.07315	0.038235521	0.024062996	8.90646E-05	0.0344887	0.0034036	0.9264928	0.0035817	0
Winter	ROG_IDLEX	0	0	0	0	0.0187276	0.015154121	0.021559444	0.481099335	0.047596	0	0	0.1040074	0
Winter	ROG_RESTL	0.013602	0.0374	0.0272977	0.035079	0.0004318	0.000227107	0.000121012	4.4158E-07	0.0005825	8.663E-05	0.1919212	6.814E-05	0
Winter	ROG_RUNEX	0.0067508	0.0245887	0.0156552	0.0164427	0.1254537	0.123765331	0.021586226	0.021922745	0.0691052	0.0029779	2.3213537	0.1184116	0.1296409
Winter	ROG_RUNLS	0.2411347	0.9865025	0.6047424	0.652844	0.5048049	0.251209445	0.153802733	0.000422705	0.453447	0.0151915	2.4790791	0.0318689	0
Winter	ROG_STREX	0.2423586	0.4548156	0.395517	0.5034399	0.0674128	0.040237744	0.06121731	3.52085E-07	0.1468502	0.0455914	2.3589363	0.0149868	0
Winter	SO2_IDLEX	0	0	0	0	9.24E-05	0.00014194	0.000772731	0.012145074	0.0006575	0	0	0.002977	0
Winter	SO2_RUNEX	0.0024182	0.0029008	0.0031134	0.0039222	0.0073433	0.007361006	0.011126804	0.012539786	0.0155108	0.002874	0.0021249	0.0105368	0.0098115
Winter	SO2_STREX	0.0005232	0.0006376	0.0006871	0.0008687	9.144E-05	6.6551E-05	0.000108498	2.94202E-07	0.0002333	9.93E-05	0.0006522	1.763E-05	0
Winter	TOG_DIURN	0.0170927	0.0528889	0.0334433	0.0400524	0.0008041	0.000408174	0.000224744	7.20045E-07	0.0012299	0.0001938	0.3927302	0.0001618	0
Winter	TOG_HTSK	0.0924816	0.2379323	0.1483094	0.1752828	0.07315	0.038235521	0.024062996	8.90646E-05	0.0344887	0.0034036	0.9264928	0.0035817	0
Winter	TOG_IDLEX	0	0	0	0	0.0258708	0.020181935	0.029443028	0.547694972	0.0642212	0	0	0.1439792	0
Winter	TOG_RESTL	0.0136102	0.0374224	0.0273141	0.0351	0.0004318	0.000227107	0.000121012	4.4158E-07	0.0005825	8.663E-05	0.1919212	6.814E-05	0
Winter	TOG_RUNEX	0.0098183	0.0358703	0.0228117	0.0238729	0.1507488	0.143314804	0.027182447	0.025021737	0.0991508	0.0070087	2.8466744	0.1407139	0.1475876
Winter	TOG_RUNLS	0.2412794	0.9870944	0.6051052	0.6532357	0.5048049	0.251209445	0.153802733	0.000422705	0.453447	0.0151915	2.4790791	0.0318689	0
Winter	TOG_STREX	0.265537	0.498313	0.4333436	0.5515827	0.0738085	0.044055265	0.067025249	3.85489E-07	0.1607825	0.0499168	2.5663825	0.0164087	0

1 Source: California Air Resources Board. EMFAC2017 Web Database. https://www.arb.ca.gov/emfac/2017/; California Air Pollution Control Officers Association (CAPCOA). 2017, November. California Emissions Estimator Model User's Guide, Version 2016.3.2, Appendix A.

2 Unless otherwise noted, per CalEEMod methodology, the calculated CalEEMod emission rates are derived from the emission rates obtained using the EMFAC2017 Web Database for the Los Angeles (SC) region .

3 Because EMFAC2017 provides vehicle trips data for MHDT and HHDT diesel trucks, the formula provided in Appendix A of the CalEEMod User's Guide in calculating the NO_X STREX emission rates are utilized.

EMFAC2017 Derived CalEEMod Annual Emission Rates: Year 2040[1,2]

Season	Pollutant	LDA	LDT1	LDT2	MDV	LHDT1	LHDT2	MHDT	HHDT	OBUS	UBUS	MCY	SBUS	MH
Annual	CH4_IDLEX	0	0	0	0	0.003326	0.002046705	0.005311819	0.024076854	0.0086013	0	0	0.0540664	0
Annual	CH4_RUNEX	0.0006168	0.0007953	0.0009895	0.001001	0.0040561	0.004956668	0.001073684	0.001856603	0.0030621	0.0074265	0.3163386	0.001524	0.0041206
Annual	CH4_STREX	0.0185473	0.0214401	0.0263149	0.0290412	0.0058772	0.003030756	0.011325787	5.67157E-08	0.0197483	0.0118934	0.2408228	0.0045111	0
Annual	CO_IDLEX	0	0	0	0	0.1675238	0.125668223	0.494967777	7.629798217	0.6107787	0	0	2.5924347	0
Annual	CO_RUNEX	0.3693408	0.4038438	0.4593899	0.4550831	0.3893989	0.490128416	0.163403088	0.21435285	0.3132283	0.0511001	17.10107	0.1477826	0.2774416
Annual	CO_STREX	1.3872314	1.5118271	1.8938095	1.9558941	0.7246664	0.404771433	1.026990198	0.001064782	2.0456131	0.8902753	9.182737	0.5874394	0
Annual	CO2_NBIO_IDLEX	0	0	0	0	7.8565111	12.50013985	64.55398753	983.6026077	74.574699	0	0	278.78775	0
Annual	CO2_NBIO_RUNEX	187.12951	223.95798	223.43261	270.52487	639.43731	628.2484946	1003.009023	997.364493	1211.1177	361.33421	211.76736	830.93097	871.51744
Annual	CO2_NBIO_STREX	36.78467	44.968006	45.051044	54.804034	8.3736919	5.351570884	10.67328882	0.008708271	16.697755	8.5915344	58.181092	3.3615232	0
Annual	NOX_IDLEX	0	0	0	0	0.046397	0.066365854	0.327123727	6.109105101	0.3445477	0	0	1.4128135	0
Annual	NOX_RUNEX	0.0164278	0.0199703	0.0202424	0.0214411	0.1926587	0.26695888	1.618166861	2.161153594	1.0518065	0.1052411	1.1296917	1.2628028	2.9770796
Annual	NOX_STREX[3]	0.1091794	0.1275835	0.1241671	0.1430939	0.16224	0.089363744	1.580435708	2.234712779	0.8079972	0.0965883	0.2660554	1.864281	0
Annual	PM10_IDLEX	0	0	0	0	0.0010351	0.001538026	9.56729E-05	0.002208502	0.0001167	0	0	0.0004405	0
Annual	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.089180026	0.130340037	0.061654969	0.13034	0.0368008	0.01176	0.7448002	0.13034
Annual	PM10_PMTW	0.008	0.008	0.008	0.008	0.0100243	0.010917859	0.012000003	0.035948338	0.012	0.0038321	0.004	0.010798	0.016
Annual	PM10_RUNEX	0.0005393	0.0006315	0.0006347	0.0006189	0.0065038	0.014023458	0.008033031	0.025090542	0.0069126	0.0011362	0.0022031	0.0082137	0.0429497
Annual	PM10_STREX	0.0007603	0.0009021	0.0008315	0.0008715	0.000172	9.26074E-05	0.000152132	9.75274E-08	0.0002138	0.0001216	0.0028608	6.225E-05	0
Annual	PM25_IDLEX	0	0	0	0	0.0009903	0.001471492	9.15342E-05	0.002112963	0.0001116	0	0	0.0004214	0
Annual	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.038220011	0.055860016	0.026423558	0.05586	0.0157718	0.00504	0.3192001	0.05586
Annual	PM25_PMTW	0.002	0.002	0.002	0.002	0.0025061	0.002729465	0.003000001	0.008987085	0.003	0.000958	0.001	0.0026995	0.004
Annual	PM25_RUNEX	0.0004962	0.0005807	0.000585	0.0005704	0.0061821	0.01339502	0.007676237	0.02400513	0.0065884	0.0010737	0.002054	0.0078403	0.0410917
Annual	PM25_STREX	0.0006991	0.0008295	0.0007646	0.0008013	0.0001582	8.51491E-05	0.00013988	8.96729E-08	0.0001965	0.0001118	0.0026699	5.723E-05	0
Annual	ROG_DIURN	0.0212595	0.0380126	0.0480197	0.0818572	0.0014209	0.000737798	0.000566193	4.56062E-07	0.00256	0.0010748	1.5726248	0.0009306	0
Annual	ROG_HTSK	0.0382006	0.0572094	0.0564386	0.0903613	0.0355011	0.01704716	0.017796371	1.47608E-05	0.0275969	0.0065001	0.8285006	0.0054472	0
Annual	ROG_IDLEX	0	0	0	0	0.0144715	0.011925114	0.023603307	0.516336686	0.0526068	0	0	0.2463294	0
Annual	ROG_RESTL	0.0178206	0.0329557	0.041749	0.0720954	0.0007543	0.000397312	0.000303109	2.47538E-07	0.0009515	0.0003889	0.8003489	0.0003444	0
Annual	ROG_RUNEX	0.0017758	0.0024429	0.003239	0.0033714	0.0687278	0.096592964	0.012972691	0.020696586	0.0186051	0.0028683	2.0957866	0.0181641	0.0887133
Annual	ROG_RUNLS	0.1506461	0.223874	0.2179223	0.2691163	0.1762906	0.08676487	0.086955195	7.31421E-05	0.3115012	0.0339427	1.3011075	0.0376157	0
Annual	ROG_STREX	0.0675471	0.0808816	0.1022251	0.1208242	0.0263128	0.013167996	0.052900528	2.92741E-07	0.0996871	0.0479608	1.8151579	0.0245657	0
Annual	SO2_IDLEX	0	0	0	0	7.586E-05	0.000119192	0.000613385	0.009290245	0.0007099	0	0	0.0026542	0
Annual	SO2_RUNEX	0.001851	0.0022162	0.0022102	0.0026732	0.006226	0.006052919	0.009587361	0.009416479	0.0117537	0.0034983	0.0020956	0.0079456	0.008239
Annual	SO2_STREX	0.000364	0.000445	0.0004458	0.0005423	8.286E-05	5.29581E-05	0.000105621	8.61754E-08	0.0001652	8.502E-05	0.0005757	3.326E-05	0
Annual	TOG_DIURN	0.0216229	0.0386701	0.0488507	0.0832766	0.0014209	0.000737798	0.000566193	4.56062E-07	0.00256	0.0010748	1.5726248	0.0009306	0
Annual	TOG_HTSK	0.0388603	0.0582018	0.0574171	0.0919298	0.0355011	0.01704716	0.017796371	1.47608E-05	0.0275969	0.0065001	0.8285006	0.0054472	0
Annual	TOG_IDLEX	0	0	0	0	0.019786	0.015424859	0.032729359	0.587904909	0.0687568	0	0	0.3525788	0
Annual	TOG_RESTL	0.0181283	0.0335277	0.0424737	0.073348	0.0007543	0.000397312	0.000303109	2.47538E-07	0.0009515	0.0003889	0.8003489	0.0003444	0
Annual	TOG_RUNEX	0.0025951	0.003596	0.0047161	0.004898	0.0792981	0.110534572	0.015423738	0.0244682	0.0249414	0.0106657	2.6287235	0.0218302	0.1009942
Annual	TOG_RUNLS	0.1532674	0.2277694	0.2217142	0.273799	0.1762906	0.08676487	0.086955195	7.31421E-05	0.3115012	0.0339427	1.3011075	0.0376157	0
Annual	TOG_STREX	0.0746211	0.0893522	0.1129309	0.1334779	0.0288092	0.014417298	0.057919419	3.20514E-07	0.1091448	0.052511	1.9772795	0.0268964	0
Summer	CH4_IDLEX	0	0	0	0	0.0033353	0.002051791	0.004996483	0.025514271	0.0087013	0	0	0.0542175	0
Summer	CH4_RUNEX	0.0007223	0.0009285	0.0011546	0.0011692	0.0040875	0.004973701	0.001093574	0.001856847	0.0031499	0.0074468	0.3136228	0.0015538	0.0041206
Summer	CH4_STREX	0.0157558	0.0182014	0.0223035	0.0246235	0.0055716	0.002872651	0.010774387	5.34088E-08	0.0185613	0.010607	0.2083563	0.0036098	0
Summer	CO_IDLEX	0	0	0	0	0.1675238	0.125668223	0.407361051	7.530972926	0.6056144	0	0	2.5772349	0
Summer	CO_RUNEX	0.4640461	0.5050858	0.5742566	0.5678615	0.3916602	0.491344634	0.16444904	0.214467946	0.320187	0.052181	17.423489	0.149823	0.2774416
Summer	CO_STREX	1.1780097	1.2816513	1.592512	1.6421885	0.6756293	0.37746647	0.953676923	0.000988771	1.8582415	0.7257106	8.0592891	0.3901268	0
Summer	CO2_NBIO_IDLEX	0	0	0	0	7.8565111	12.50013985	64.16747825	970.7257067	73.7337	0	0	276.87754	0
Summer	CO2_NBIO_RUNEX	205.48522	242.70571	240.38973	287.23318	639.44129	628.250638	1003.010938	997.3646808	1211.1302	361.33616	212.17558	830.93472	871.51744
Summer	CO2_NBIO_STREX	36.425183	44.568716	44.529918	54.253301	8.2910822	5.305851844	10.54738524	0.008587733	16.37944	8.3125306	55.550441	3.0321722	0
Summer	NOX_IDLEX	0	0	0	0	0.046397	0.066365854	0.31232888	5.805684776	0.327422	0	0	1.3624781	0
Summer	NOX_RUNEX	0.0154761	0.0187628	0.0190226	0.0201492	0.1846353	0.255625647	1.540720315	2.05977349	0.9957509	0.1027688	0.9852449	1.1992259	2.8354663
Summer	NOX_STREX[3]	0.1026296	0.119933	0.1167455	0.1345304	0.152997	0.084275666	1.573745838	2.23470998	0.7949569	0.0907048	0.2477494	1.8612103	0
Summer	PM10_IDLEX	0	0	0	0	0.0010351	0.001538026	8.41292E-05	0.001961908	0.0001037	0	0	0.000385	0
Summer	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.089180026	0.130340037	0.061654969	0.13034	0.0368008	0.01176	0.7448002	0.13034
Summer	PM10_PMTW	0.008	0.008	0.008	0.008	0.0100243	0.010917859	0.012000003	0.035948338	0.012	0.0038321	0.004	0.010798	0.016
Summer	PM10_RUNEX	0.0005393	0.0006315	0.0006347	0.0006189	0.0065038	0.014023458	0.008033031	0.025090542	0.0069126	0.0011362	0.0022031	0.0082137	0.0429497
Summer	PM10_STREX	0.0007603	0.0009021	0.0008315	0.0008715	0.000172	9.26074E-05	0.000152132	9.75274E-08	0.0002138	0.0001216	0.0028608	6.225E-05	0
Summer	PM25_IDLEX	0	0	0	0	0.0009903	0.001471492	8.04898E-05	0.001877037	9.918E-05	0	0	0.0003683	0
Summer	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.038220011	0.055860016	0.026423558	0.05586	0.0157718	0.00504	0.3192001	0.05586
Summer	PM25_PMTW	0.002	0.002	0.002	0.002	0.0025061	0.002729465	0.003000001	0.008987085	0.003	0.000958	0.001	0.0026995	0.004
Summer	PM25_RUNEX	0.0004962	0.0005807	0.000585	0.0005704	0.0061821	0.01339502	0.007676237	0.02400513	0.0065884	0.0010737	0.002054	0.0078403	0.0410917
Summer	PM25_STREX	0.0006991	0.0008295	0.0007646	0.0008013	0.0001582	8.51491E-05	0.00013988	8.96729E-08	0.0001965	0.0001118	0.0026699	5.723E-05	0
Summer	ROG_DIURN	0.0498096	0.0881013	0.1113538	0.1891335	0.0032645	0.001690969	0.001301997	1.04294E-06	0.0058822	0.0025594	3.9420912	0.0021479	0
Summer	ROG_HTSK	0.0434919	0.0648716	0.0662976	0.1058173	0.0399441	0.019027312	0.020180306	1.63752E-05	0.0297001	0.0082666	1.3627837	0.0057561	0
Summer	ROG_IDLEX	0	0	0	0	0.0144715	0.011925114	0.02263595	0.547186962	0.0541033	0	0	0.2475095	0
Summer	ROG_RESTL	0.0372742	0.0671046	0.0852008	0.1459773	0.001471	0.000772204	0.000594419	4.78896E-07	0.0017625	0.00082	2.048298	0.0006483	0
Summer	ROG_RUNEX	0.0020424	0.0028122	0.0037062	0.003853	0.0688205	0.096642956	0.013032236	0.02069784	0.0189469	0.0029223	2.0679317	0.0182835	0.0887133
Summer	ROG_RUNLS	0.1457963	0.2170704	0.2112506	0.2614386	0.1750064	0.085946568	0.086037071	7.2398E-05	0.3090654	0.032377	1.269735	0.0327022	0
Summer	ROG_STREX	0.0565483	0.0676492	0.0853626	0.1008403	0.0248584	0.012441485	0.050011723	2.76755E-07	0.0933365	0.0425516	1.5598766	0.0196216	0
Summer	SO2_IDLEX	0	0	0	0	7.586E-05	0.000119192	0.000609898	0.009168609	0.000702	0	0	0.0026362	0
Summer	SO2_RUNEX	0.0020327	0.0024018	0.002378	0.0028385	0.0062261	0.00605294	0.00958738	0.009416481	0.0117538	0.0034983	0.0020996	0.0079456	0.008239
Summer	SO2_STREX	0.0003605	0.000441	0.0004407	0.0005369	8.205E-05	5.25057E-05	0.000104375	8.49826E-08	0.0001621	8.226E-05	0.0005497	3.001E-05	0
Summer	TOG_DIURN	0.0506598	0.0896243	0.1132797	0.192412	0.0032645	0.001690969	0.001301997	1.04294E-06	0.0058822	0.0025594	3.9420912	0.0021479	0
Summer	TOG_HTSK	0.0442436	0.0659974	0.0674477	0.1076548	0.0399441	0.019027312	0.020180306	1.63752E-05	0.0297001	0.0082666	1.3627837	0.0057561	0
Summer	TOG_IDLEX	0	0	0	0	0.019786	0.015424859	0.031211291	0.62303012	0.0704605	0	0	0.3539222	0
Summer	TOG_RESTL	0.0379149	0.0682675	0.0866778	0.1485114	0.001471	0.000772204	0.000594419	4.78896E-07	0.0017625	0.00082	2.048298	0.0006483	0
Summer	TOG_RUNEX	0.0029876	0.0041397	0.0054039	0.0056071	0.0794333	0.110607521	0.015510626	0.024470029	0.02544	0.0107445	2.5941038	0.0220045	0.1009942
Summer	TOG_RUNLS	0.1483331	0.2208474	0.2149263	0.2659876	0.1750064	0.085946568	0.086037071	7.2398E-05	0.3090654	0.032377	1.269735	0.0327022	0
Summer	TOG_STREX	0.0624705	0.0747339	0.0943024	0.1114011	0.0272168	0.01362186	0.054756542	3.03012E-07	0.1021917	0.0465887	1.69923	0.0214831	0

Winter	CH4_IDLEX	0	0	0	0	0.0033152	0.002040732	0.005613712	0.022003577	0.0084707	0	0	0.0538882	0
Winter	CH4_RUNEX	0.0005646	0.0007291	0.0009074	0.0009173	0.00402	0.004937054	0.001050543	0.000966777	0.0029584	0.0074039	0.3252418	0.0014924	0.0041206
Winter	CH4_STREX	0.0215816	0.0249642	0.0306787	0.0338506	0.0062415	0.003218995	0.012014785	6.08683E-08	0.0211465	0.0134137	0.2858223	0.0054799	0
Winter	CO_IDLEX	0	0	0	0	0.1675238	0.125668223	0.583813721	7.764520422	0.6179103	0	0	2.6134249	0
Winter	CO_RUNEX	0.3380214	0.3704788	0.4215302	0.4179067	0.3868946	0.488781568	0.16219597	0.211421767	0.3051973	0.0499316	18.26353	0.1456488	0.2774416
Winter	CO_STREX	1.7050611	1.859681	2.3382969	2.4168164	0.7891547	0.440680039	1.125564426	0.001166983	2.2882726	1.0992706	11.000655	0.8251957	0
Winter	CO2_NBIO_IDLEX	0	0	0	0	7.8565111	12.50013985	65.22759057	1001.134148	75.73608	0	0	281.42565	0
Winter	CO2_NBIO_RUNEX	179.64994	216.31936	216.52636	263.71989	639.43288	628.2461106	1003.006804	996.7062396	1211.1032	361.3321	213.89606	830.92704	871.51744
Winter	CO2_NBIO_STREX	37.316375	45.554516	45.800304	55.590466	8.4817726	5.411410602	10.8416339	0.008870335	17.107655	8.944518	62.27104	3.7562895	0
Winter	NOX_IDLEX	0	0	0	0	0.046397	0.066365854	0.347580567	6.526479058	0.3681974	0	0	1.4823243	0
Winter	NOX_RUNEX	0.0180079	0.0219244	0.0222013	0.0235126	0.1965344	0.271851399	1.647943615	2.201645456	1.0773809	0.1069439	1.2343775	1.2895387	3.0328351
Winter	NOX_STREX[3]	0.1214102	0.1418729	0.1380655	0.1591096	0.1744057	0.096068193	1.589204974	2.234716447	0.8250864	0.1037664	0.2884637	1.8676684	0
Winter	PM10_IDLEX	0	0	0	0	0.0010351	0.001538026	0.000111614	0.002546703	0.0001346	0	0	0.0005172	0
Winter	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.089180026	0.130340037	0.061638999	0.13034	0.0368008	0.01176	0.7448002	0.13034
Winter	PM10_PMTW	0.008	0.008	0.008	0.008	0.0100243	0.010917859	0.012000003	0.035939026	0.012	0.0038321	0.004	0.010798	0.016
Winter	PM10_RUNEX	0.0005393	0.0006315	0.0006347	0.0006189	0.0065038	0.014023458	0.008033031	0.025089188	0.0069126	0.0011362	0.0022031	0.0082137	0.0429497
Winter	PM10_STREX	0.0007603	0.0009021	0.0008315	0.0008715	0.000172	9.26074E-05	0.000152132	9.75274E-08	0.0002138	0.0001216	0.0028608	6.225E-05	0
Winter	PM25_IDLEX	0	0	0	0	0.0009903	0.001471492	0.000106786	0.002436533	0.0001288	0	0	0.0004948	0
Winter	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.038220011	0.055860016	0.026416714	0.05586	0.0157718	0.00504	0.3192001	0.05586
Winter	PM25_PMTW	0.002	0.002	0.002	0.002	0.0025061	0.002729465	0.003000001	0.008984757	0.003	0.000958	0.001	0.0026995	0.004
Winter	PM25_RUNEX	0.0004962	0.0005807	0.000585	0.0005704	0.0061821	0.01339502	0.007676237	0.024003835	0.0065884	0.0010737	0.002054	0.0078403	0.0410917
Winter	PM25_STREX	0.0006991	0.0008295	0.0007646	0.0008013	0.0001582	8.51491E-05	0.00013988	8.96729E-08	0.0001965	0.0001118	0.0026699	5.723E-05	0
Winter	ROG_DIURN	0.0062897	0.0116574	0.0146811	0.0253009	0.0004751	0.000247333	0.000187474	1.53668E-07	0.0009027	0.0003365	0.3922878	0.0003192	0
Winter	ROG_HTSK	0.0376116	0.0563592	0.055345	0.0886463	0.0350713	0.016851839	0.017524004	1.45758E-05	0.0273549	0.0063049	0.7726708	0.005399	0
Winter	ROG_IDLEX	0	0	0	0	0.0144715	0.011925114	0.024444181	0.473730974	0.0505401	0	0	0.2446998	0
Winter	ROG_RESTL	0.0056324	0.0108106	0.0136453	0.0238055	0.000304	0.000160524	0.000121186	1.00498E-07	0.0004706	0.0001581	0.1813149	0.0001674	0
Winter	ROG_RUNEX	0.0016568	0.0022774	0.0030297	0.0031556	0.0686208	0.096535196	0.01290172	0.020659218	0.0181978	0.0028083	2.1730017	0.0180366	0.0887133
Winter	ROG_RUNLS	0.1798274	0.2665449	0.2597051	0.3188477	0.1948348	0.095947052	0.09670888	8.12691E-05	0.3361946	0.0412562	1.5725988	0.0477931	0
Winter	ROG_STREX	0.0799677	0.0958389	0.1212831	0.1434078	0.0280592	0.014038476	0.056504631	3.12685E-07	0.1072144	0.0544287	2.1781502	0.0298999	0
Winter	SO2_IDLEX	0	0	0	0	7.586E-05	0.000119192	0.000619584	0.009458219	0.0007209	0	0	0.0026791	0
Winter	SO2_RUNEX	0.001777	0.0021406	0.0021418	0.0026059	0.006226	0.006052895	0.009587339	0.009416477	0.0117535	0.0034983	0.0021167	0.0079455	0.008239
Winter	SO2_STREX	0.0003693	0.0004508	0.0004532	0.0005501	8.393E-05	5.35503E-05	0.000107287	8.77792E-08	0.0001693	8.851E-05	0.0006162	3.717E-05	0
Winter	TOG_DIURN	0.0063984	0.0118598	0.014936	0.0257406	0.0004751	0.000247333	0.000187474	1.53668E-07	0.0009027	0.0003365	0.3922878	0.0003192	0
Winter	TOG_HTSK	0.038261	0.0573369	0.0563045	0.090185	0.0350713	0.016851839	0.017524004	1.45758E-05	0.0273549	0.0063049	0.7726708	0.005399	0
Winter	TOG_IDLEX	0	0	0	0	0.019786	0.015424859	0.034103435	0.539306653	0.066404	0	0	0.3507236	0
Winter	TOG_RESTL	0.0057302	0.0109987	0.0138826	0.0242196	0.000304	0.000160524	0.000121186	1.00498E-07	0.0004706	0.0001581	0.1813149	0.0001674	0
Winter	TOG_RUNEX	0.00242	0.0033523	0.0044079	0.0045803	0.0791419	0.110450277	0.015320177	0.023531794	0.024347	0.0105781	2.7250577	0.0216442	0.1009942
Winter	TOG_RUNLS	0.1829564	0.2711827	0.2642239	0.3243956	0.1948348	0.095947052	0.09670888	8.12691E-05	0.3361946	0.0412562	1.5725988	0.0477931	0
Winter	TOG_STREX	0.0883425	0.105876	0.1339849	0.1584266	0.0307213	0.015370365	0.061865459	3.42351E-07	0.1173863	0.0595925	2.3726274	0.0327366	0

1 Source: California Air Resources Board. EMFAC2017 Web Database. https://www.arb.ca.gov/emfac/2017/; California Air Pollution Control Officers Association (CAPCOA). 2017, November. California Emissions Estimator Model User's Guide, Version 2016.3.2, Appendix A.

2 Unless otherwise noted, per CalEEMod methodology, the calculated CalEEMod emission rates are derived from the emission rates obtained using the EMFAC2017 Web Database for the Los Angeles (SC) region .

3 Because EMFAC2017 provides vehicle trips data for MHDT and HHDT diesel trucks, the formula provided in Appendix A of the CalEEMod User's Guide in calculating the NO_X STREX emission rates are utilized.

CalEEMod Output: Phase 1 Onsite Construction

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Construction_Phase 1

Kings County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Regional Shopping Center	11.98	1000sqft	0.28	11,980.00	0
Fast Food Restaurant with Drive Thru	9.85	1000sqft	0.23	9,847.00	0
High Turnover (Sit Down Restaurant)	10.03	1000sqft	0.23	10,026.00	0
Convenience Market With Gas Pumps	23.26	1000sqft	0.53	23,261.00	0
Motel	187.00	Room	0.61	106,131.00	0
Parking Lot	5.75	Acre	5.75	250,470.00	0
Other Asphalt Surfaces	11.34	Acre	11.34	494,021.00	0
Other Non-Asphalt Surfaces	8.34	Acre	8.34	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	37
Climate Zone	3			**Operational Year**	2024
Utility Company					
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - See assumptions file.

Construction Phase - See assumptions file.

Off-road Equipment -

Off-road Equipment - See assumptions file.

Off-road Equipment -

Grading -

Demolition -

Trips and VMT - See assumptions file.

Architectural Coating - See assumptions file.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	44,669.00	15,025.00
tblConstructionPhase	NumDays	35.00	45.00
tblConstructionPhase	NumDays	440.00	568.00
tblConstructionPhase	NumDays	30.00	39.00
tblConstructionPhase	NumDays	45.00	58.00
tblConstructionPhase	NumDays	35.00	45.00
tblConstructionPhase	NumDays	20.00	26.00
tblConstructionPhase	NumDays	30.00	39.00
tblConstructionPhase	PhaseEndDate	4/27/2023	12/29/2023
tblConstructionPhase	PhaseEndDate	1/19/2023	8/25/2023
tblConstructionPhase	PhaseEndDate	2/11/2021	2/24/2021
tblConstructionPhase	PhaseEndDate	5/13/2021	6/22/2021
tblConstructionPhase	PhaseEndDate	3/9/2023	10/27/2023
tblConstructionPhase	PhaseEndDate	3/11/2021	4/1/2021

tblConstructionPhase	PhaseStartDate	3/10/2023	10/28/2023
tblConstructionPhase	PhaseStartDate	5/14/2021	6/23/2021
tblConstructionPhase	PhaseStartDate	3/12/2021	4/2/2021
tblConstructionPhase	PhaseStartDate	1/20/2023	8/26/2023
tblConstructionPhase	PhaseStartDate	2/12/2021	2/25/2021
tblLandUse	LandUseSquareFeet	366,557.40	106,131.00
tblLandUse	LandUseSquareFeet	494,013.96	494,021.00
tblLandUse	LandUseSquareFeet	363,290.40	0.00
tblLandUse	LotAcreage	8.41	0.61
tblOffRoadEquipment	HorsePower	85.00	325.00
tblOffRoadEquipment	OffRoadEquipmentType		Crushing/Proc. Equipment
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.5779	5.0661	4.2054	0.0112	0.8961	0.1907	1.0869	0.3429	0.1776	0.5205	0.0000	1,013.3894	1,013.3894	0.1644	0.0000	1,017.4990
2022	0.5398	4.1594	4.3967	0.0139	0.7281	0.1141	0.8422	0.1961	0.1073	0.3034	0.0000	1,259.6242	1,259.6242	0.1419	0.0000	1,263.1705
2023	1.5512	2.5662	3.1466	9.6400e-003	0.5014	0.0760	0.5774	0.1349	0.0713	0.2063	0.0000	874.5035	874.5035	0.0947	0.0000	876.8719
Maximum	**1.5512**	**5.0661**	**4.3967**	**0.0139**	**0.8961**	**0.1907**	**1.0869**	**0.3429**	**0.1776**	**0.5205**	**0.0000**	**1,259.624**	**1,259.6242**	**0.1644**	**0.0000**	**1,263.170**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.5779	5.0661	4.2054	0.0112	0.8961	0.1907	1.0869	0.3429	0.1776	0.5205	0.0000	1,013.3889	1,013.3889	0.1644	0.0000	1,017.4984
2022	0.5398	4.1594	4.3967	0.0139	0.7281	0.1141	0.8422	0.1961	0.1073	0.3034	0.0000	1,259.6239	1,259.6239	0.1419	0.0000	1,263.1702
2023	1.5512	2.5662	3.1466	9.6400e-003	0.5014	0.0760	0.5774	0.1349	0.0713	0.2063	0.0000	874.5032	874.5032	0.0947	0.0000	876.8716
Maximum	**1.5512**	**5.0661**	**4.3967**	**0.0139**	**0.8961**	**0.1907**	**1.0869**	**0.3429**	**0.1776**	**0.5205**	**0.0000**	**1,259.6239**	**1,259.6239**	**0.1644**	**0.0000**	**1,263.1702**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2021	3-31-2021	1.5876	1.5876
2	4-1-2021	6-30-2021	1.6287	1.6287
3	7-1-2021	9-30-2021	1.2907	1.2907
4	10-1-2021	12-31-2021	1.3048	1.3048
5	1-1-2022	3-31-2022	1.1713	1.1713
6	4-1-2022	6-30-2022	1.1721	1.1721
7	7-1-2022	9-30-2022	1.1850	1.1850
8	10-1-2022	12-31-2022	1.1974	1.1974
9	1-1-2023	3-31-2023	0.9988	0.9988
10	4-1-2023	6-30-2023	1.0005	1.0005
11	7-1-2023	9-30-2023	0.7745	0.7745
		Highest	1.6287	1.6287

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2021	2/24/2021	5	39	
2	Onsite Demolition Debris Reprocessing	Demolition	1/1/2021	2/24/2021	5	39	
3	Site Preparation	Site Preparation	2/25/2021	4/1/2021	5	26	
4	Grading	Grading	4/2/2021	6/22/2021	5	58	
5	Building Construction	Building Construction	6/23/2021	8/25/2023	5	568	
6	Paving	Paving	8/26/2023	10/27/2023	5	45	
7	Architectural Coating	Architectural Coating	10/28/2023	12/29/2023	5	45	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 145

Acres of Paving: 25.43

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 241,868; Non-Residential Outdoor: 80,623; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	158	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Onsite Demolition Debris Reprocessing	Concrete/Industrial Saws	0	8.00	81	0.73
Onsite Demolition Debris Reprocessing	Excavators	0	8.00	158	0.38
Onsite Demolition Debris Reprocessing	Rubber Tired Dozers	0	8.00	247	0.40
Onsite Demolition Debris Reprocessing	Crushing/Proc. Equipment	1	8.00	325	0.78

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	75.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	377.00	148.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	6	15.00	4.00	62.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	4.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	4.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Onsite Demolition Debris Reprocessing	1	3.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.7200e-003	0.0000	6.7200e-003	1.0200e-003	0.0000	1.0200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0617	0.6131	0.4205	7.6000e-004		0.0303	0.0303		0.0281	0.0281	0.0000	66.3015	66.3015	0.0187	0.0000	66.7681
Total	**0.0617**	**0.6131**	**0.4205**	**7.6000e-004**	**6.7200e-003**	**0.0303**	**0.0370**	**1.0200e-003**	**0.0281**	**0.0291**	**0.0000**	**66.3015**	**66.3015**	**0.0187**	**0.0000**	**66.7681**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.4000e-004	7.9400e-003	1.1400e-003	2.0000e-005	5.3000e-004	3.0000e-005	5.6000e-004	1.5000e-004	2.0000e-005	1.7000e-004	0.0000	2.3317	2.3317	1.8000e-004	0.0000	2.3362
Vendor	2.6000e-004	8.2700e-003	1.6200e-003	2.0000e-005	4.7000e-004	2.0000e-005	4.9000e-004	1.4000e-004	2.0000e-005	1.6000e-004	0.0000	1.9545	1.9545	2.3000e-004	0.0000	1.9603
Worker	1.6700e-003	1.3300e-003	0.0125	3.0000e-005	3.6500e-003	2.0000e-005	3.6800e-003	9.7000e-004	2.0000e-005	9.9000e-004	0.0000	2.9749	2.9749	1.0000e-004	0.0000	2.9774
Total	**2.1700e-003**	**0.0175**	**0.0152**	**7.0000e-005**	**4.6500e-003**	**7.0000e-005**	**4.7300e-003**	**1.2600e-003**	**6.0000e-005**	**1.3200e-003**	**0.0000**	**7.2611**	**7.2611**	**5.1000e-004**	**0.0000**	**7.2739**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.7200e-003	0.0000	6.7200e-003	1.0200e-003	0.0000	1.0200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0617	0.6131	0.4205	7.6000e-004		0.0303	0.0303		0.0281	0.0281	0.0000	66.3015	66.3015	0.0187	0.0000	66.7680
Total	**0.0617**	**0.6131**	**0.4205**	**7.6000e-004**	**6.7200e-003**	**0.0303**	**0.0370**	**1.0200e-003**	**0.0281**	**0.0291**	**0.0000**	**66.3015**	**66.3015**	**0.0187**	**0.0000**	**66.7680**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.4000e-004	7.9400e-003	1.1400e-003	2.0000e-005	5.3000e-004	3.0000e-005	5.6000e-004	1.5000e-004	2.0000e-005	1.7000e-004	0.0000	2.3317	2.3317	1.8000e-004	0.0000	2.3362
Vendor	2.6000e-004	8.2700e-003	1.6200e-003	2.0000e-005	4.7000e-004	2.0000e-005	4.9000e-004	1.4000e-004	2.0000e-005	1.6000e-004	0.0000	1.9545	1.9545	2.3000e-004	0.0000	1.9603
Worker	1.6700e-003	1.3300e-003	0.0125	3.0000e-005	3.6500e-003	2.0000e-005	3.6800e-003	9.7000e-004	2.0000e-005	9.9000e-004	0.0000	2.9749	2.9749	1.0000e-004	0.0000	2.9774
Total	**2.1700e-003**	**0.0175**	**0.0152**	**7.0000e-005**	**4.6500e-003**	**7.0000e-005**	**4.7300e-003**	**1.2600e-003**	**6.0000e-005**	**1.3200e-003**	**0.0000**	**7.2611**	**7.2611**	**5.1000e-004**	**0.0000**	**7.2739**

3.3 Onsite Demolition Debris Reprocessing - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0234	0.1372	0.0935	4.4000e-004		4.8000e-003	4.8000e-003		4.8000e-003	4.8000e-003	0.0000	44.9480	44.9480	1.9000e-003	0.0000	44.9954
Total	**0.0234**	**0.1372**	**0.0935**	**4.4000e-004**		**4.8000e-003**	**4.8000e-003**		**4.8000e-003**	**4.8000e-003**	**0.0000**	**44.9480**	**44.9480**	**1.9000e-003**	**0.0000**	**44.9954**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	2.7000e-004	2.4900e-003	1.0000e-005	7.3000e-004	0.0000	7.4000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.5950	0.5950	2.0000e-005	0.0000	0.5955
Total	**3.3000e-004**	**2.7000e-004**	**2.4900e-003**	**1.0000e-005**	**7.3000e-004**	**0.0000**	**7.4000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.5950**	**0.5950**	**2.0000e-005**	**0.0000**	**0.5955**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0234	0.1372	0.0935	4.4000e-004		4.8000e-003	4.8000e-003		4.8000e-003	4.8000e-003	0.0000	44.9479	44.9479	1.9000e-003	0.0000	44.9954
Total	**0.0234**	**0.1372**	**0.0935**	**4.4000e-004**		**4.8000e-003**	**4.8000e-003**		**4.8000e-003**	**4.8000e-003**	**0.0000**	**44.9479**	**44.9479**	**1.9000e-003**	**0.0000**	**44.9954**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	2.7000e-004	2.4900e-003	1.0000e-005	7.3000e-004	0.0000	7.4000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.5950	0.5950	2.0000e-005	0.0000	0.5955
Total	**3.3000e-004**	**2.7000e-004**	**2.4900e-003**	**1.0000e-005**	**7.3000e-004**	**0.0000**	**7.4000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.5950**	**0.5950**	**2.0000e-005**	**0.0000**	**0.5955**

3.4 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2349	0.0000	0.2349	0.1291	0.0000	0.1291	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0506	0.5265	0.2750	4.9000e-004		0.0266	0.0266		0.0245	0.0245	0.0000	43.4664	43.4664	0.0141	0.0000	43.8179
Total	**0.0506**	**0.5265**	**0.2750**	**4.9000e-004**	**0.2349**	**0.0266**	**0.2614**	**0.1291**	**0.0245**	**0.1536**	**0.0000**	**43.4664**	**43.4664**	**0.0141**	**0.0000**	**43.8179**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.7000e-004	5.5100e-003	1.0800e-003	1.0000e-005	3.1000e-004	2.0000e-005	3.3000e-004	9.0000e-005	2.0000e-005	1.1000e-004	0.0000	1.3030	1.3030	1.5000e-004	0.0000	1.3069
Worker	1.3300e-003	1.0700e-003	9.9800e-003	3.0000e-005	2.9200e-003	2.0000e-005	2.9400e-003	7.8000e-004	2.0000e-005	7.9000e-004	0.0000	2.3800	2.3800	8.0000e-005	0.0000	2.3819
Total	**1.5000e-003**	**6.5800e-003**	**0.0111**	**4.0000e-005**	**3.2300e-003**	**4.0000e-005**	**3.2700e-003**	**8.7000e-004**	**4.0000e-005**	**9.0000e-004**	**0.0000**	**3.6830**	**3.6830**	**2.3000e-004**	**0.0000**	**3.6888**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2349	0.0000	0.2349	0.1291	0.0000	0.1291	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0506	0.5265	0.2750	4.9000e-004		0.0266	0.0266		0.0245	0.0245	0.0000	43.4664	43.4664	0.0141	0.0000	43.8178
Total	**0.0506**	**0.5265**	**0.2750**	**4.9000e-004**	**0.2349**	**0.0266**	**0.2614**	**0.1291**	**0.0245**	**0.1536**	**0.0000**	**43.4664**	**43.4664**	**0.0141**	**0.0000**	**43.8178**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.7000e-004	5.5100e-003	1.0800e-003	1.0000e-005	3.1000e-004	2.0000e-005	3.3000e-004	9.0000e-005	2.0000e-005	1.1000e-004	0.0000	1.3030	1.3030	1.5000e-004	0.0000	1.3069
Worker	1.3300e-003	1.0700e-003	9.9800e-003	3.0000e-005	2.9200e-003	2.0000e-005	2.9400e-003	7.8000e-004	2.0000e-005	7.9000e-004	0.0000	2.3800	2.3800	8.0000e-005	0.0000	2.3819
Total	**1.5000e-003**	**6.5800e-003**	**0.0111**	**4.0000e-005**	**3.2300e-003**	**4.0000e-005**	**3.2700e-003**	**8.7000e-004**	**4.0000e-005**	**9.0000e-004**	**0.0000**	**3.6830**	**3.6830**	**2.3000e-004**	**0.0000**	**3.6888**

3.5 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2515	0.0000	0.2515	0.1043	0.0000	0.1043	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1215	1.3456	0.8955	1.8000e-003		0.0576	0.0576		0.0530	0.0530	0.0000	158.0355	158.0355	0.0511	0.0000	159.3132
Total	**0.1215**	**1.3456**	**0.8955**	**1.8000e-003**	**0.2515**	**0.0576**	**0.3091**	**0.1043**	**0.0530**	**0.1573**	**0.0000**	**158.0355**	**158.0355**	**0.0511**	**0.0000**	**159.3132**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.8000e-004	0.0123	2.4100e-003	3.0000e-005	7.0000e-004	4.0000e-005	7.3000e-004	2.0000e-004	3.0000e-005	2.4000e-004	0.0000	2.9067	2.9067	3.4000e-004	0.0000	2.9153
Worker	3.3100e-003	2.6400e-003	0.0247	7.0000e-005	7.2500e-003	5.0000e-005	7.2900e-003	1.9200e-003	4.0000e-005	1.9700e-003	0.0000	5.8990	5.8990	1.9000e-004	0.0000	5.9039
Total	**3.6900e-003**	**0.0149**	**0.0272**	**1.0000e-004**	**7.9500e-003**	**9.0000e-005**	**8.0200e-003**	**2.1200e-003**	**7.0000e-005**	**2.2100e-003**	**0.0000**	**8.8058**	**8.8058**	**5.3000e-004**	**0.0000**	**8.8192**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2515	0.0000	0.2515	0.1043	0.0000	0.1043	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1215	1.3456	0.8955	1.8000e-003		0.0576	0.0576		0.0530	0.0530	0.0000	158.0353	158.0353	0.0511	0.0000	159.3131
Total	**0.1215**	**1.3456**	**0.8955**	**1.8000e-003**	**0.2515**	**0.0576**	**0.3091**	**0.1043**	**0.0530**	**0.1573**	**0.0000**	**158.0353**	**158.0353**	**0.0511**	**0.0000**	**159.3131**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.8000e-004	0.0123	2.4100e-003	3.0000e-005	7.0000e-004	4.0000e-005	7.3000e-004	2.0000e-004	3.0000e-005	2.4000e-004	0.0000	2.9067	2.9067	3.4000e-004	0.0000	2.9153
Worker	3.3100e-003	2.6400e-003	0.0247	7.0000e-005	7.2500e-003	5.0000e-005	7.2900e-003	1.9200e-003	4.0000e-005	1.9700e-003	0.0000	5.8990	5.8990	1.9000e-004	0.0000	5.9039
Total	**3.6900e-003**	**0.0149**	**0.0272**	**1.0000e-004**	**7.9500e-003**	**9.0000e-005**	**8.0200e-003**	**2.1200e-003**	**7.0000e-005**	**2.2100e-003**	**0.0000**	**8.8058**	**8.8058**	**5.3000e-004**	**0.0000**	**8.8192**

3.6 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1312	1.2028	1.1437	1.8600e-003		0.0661	0.0661		0.0622	0.0622	0.0000	159.8297	159.8297	0.0386	0.0000	160.7937
Total	**0.1312**	**1.2028**	**1.1437**	**1.8600e-003**		**0.0661**	**0.0661**		**0.0622**	**0.0622**	**0.0000**	**159.8297**	**159.8297**	**0.0386**	**0.0000**	**160.7937**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0335	1.0830	0.2120	2.7000e-003	0.0615	3.1400e-003	0.0647	0.0178	3.0000e-003	0.0208	0.0000	255.8922	255.8922	0.0301	0.0000	256.6445
Worker	0.1483	0.1186	1.1094	2.9300e-003	0.3249	2.0500e-003	0.3270	0.0863	1.8900e-003	0.0882	0.0000	264.5713	264.5713	8.7100e-003	0.0000	264.7889
Total	**0.1818**	**1.2016**	**1.3214**	**5.6300e-003**	**0.3865**	**5.1900e-003**	**0.3916**	**0.1041**	**4.8900e-003**	**0.1090**	**0.0000**	**520.4635**	**520.4635**	**0.0388**	**0.0000**	**521.4334**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1312	1.2028	1.1437	1.8600e-003		0.0661	0.0661		0.0622	0.0622	0.0000	159.8295	159.8295	0.0386	0.0000	160.7935
Total	**0.1312**	**1.2028**	**1.1437**	**1.8600e-003**		**0.0661**	**0.0661**		**0.0622**	**0.0622**	**0.0000**	**159.8295**	**159.8295**	**0.0386**	**0.0000**	**160.7935**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0335	1.0830	0.2120	2.7000e-003	0.0615	3.1400e-003	0.0647	0.0178	3.0000e-003	0.0208	0.0000	255.8922	255.8922	0.0301	0.0000	256.6445
Worker	0.1483	0.1186	1.1094	2.9300e-003	0.3249	2.0500e-003	0.3270	0.0863	1.8900e-003	0.0882	0.0000	264.5713	264.5713	8.7100e-003	0.0000	264.7889
Total	**0.1818**	**1.2016**	**1.3214**	**5.6300e-003**	**0.3865**	**5.1900e-003**	**0.3916**	**0.1041**	**4.8900e-003**	**0.1090**	**0.0000**	**520.4635**	**520.4635**	**0.0388**	**0.0000**	**521.4334**

3.6 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2428	301.2428	0.0722	0.0000	303.0471
Total	**0.2218**	**2.0300**	**2.1272**	**3.5000e-003**		**0.1052**	**0.1052**		**0.0990**	**0.0990**	**0.0000**	**301.2428**	**301.2428**	**0.0722**	**0.0000**	**303.0471**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0588	1.9298	0.3687	5.0300e-003	0.1159	5.1500e-003	0.1210	0.0335	4.9200e-003	0.0384	0.0000	477.6210	477.6210	0.0551	0.0000	478.9986
Worker	0.2593	0.1996	1.9008	5.3200e-003	0.6122	3.7400e-003	0.6160	0.1626	3.4400e-003	0.1661	0.0000	480.7604	480.7604	0.0146	0.0000	481.1249
Total	**0.3180**	**2.1294**	**2.2695**	**0.0104**	**0.7281**	**8.8900e-003**	**0.7370**	**0.1961**	**8.3600e-003**	**0.2045**	**0.0000**	**958.3814**	**958.3814**	**0.0697**	**0.0000**	**960.1235**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2425	301.2425	0.0722	0.0000	303.0467
Total	**0.2218**	**2.0300**	**2.1272**	**3.5000e-003**		**0.1052**	**0.1052**		**0.0990**	**0.0990**	**0.0000**	**301.2425**	**301.2425**	**0.0722**	**0.0000**	**303.0467**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0588	1.9298	0.3687	5.0300e-003	0.1159	5.1500e-003	0.1210	0.0335	4.9200e-003	0.0384	0.0000	477.6210	477.6210	0.0551	0.0000	478.9986
Worker	0.2593	0.1996	1.9008	5.3200e-003	0.6122	3.7400e-003	0.6160	0.1626	3.4400e-003	0.1661	0.0000	480.7604	480.7604	0.0146	0.0000	481.1249
Total	**0.3180**	**2.1294**	**2.2695**	**0.0104**	**0.7281**	**8.8900e-003**	**0.7370**	**0.1961**	**8.3600e-003**	**0.2045**	**0.0000**	**958.3814**	**958.3814**	**0.0697**	**0.0000**	**960.1235**

3.6 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1337	1.2227	1.3807	2.2900e-003		0.0595	0.0595		0.0560	0.0560	0.0000	197.0340	197.0340	0.0469	0.0000	198.2058
Total	**0.1337**	**1.2227**	**1.3807**	**2.2900e-003**		**0.0595**	**0.0595**		**0.0560**	**0.0560**	**0.0000**	**197.0340**	**197.0340**	**0.0469**	**0.0000**	**198.2058**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0266	0.9608	0.1987	3.2100e-003	0.0758	9.2000e-004	0.0767	0.0219	8.7000e-004	0.0228	0.0000	304.8085	304.8085	0.0240	0.0000	305.4077
Worker	0.1577	0.1167	1.1271	3.3500e-003	0.4003	2.3700e-003	0.4027	0.1063	2.1800e-003	0.1085	0.0000	302.7257	302.7257	8.4400e-003	0.0000	302.9368
Total	**0.1843**	**1.0774**	**1.3258**	**6.5600e-003**	**0.4761**	**3.2900e-003**	**0.4794**	**0.1282**	**3.0500e-003**	**0.1313**	**0.0000**	**607.5342**	**607.5342**	**0.0324**	**0.0000**	**608.3445**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1337	1.2227	1.3807	2.2900e-003		0.0595	0.0595		0.0560	0.0560	0.0000	197.0338	197.0338	0.0469	0.0000	198.2056
Total	**0.1337**	**1.2227**	**1.3807**	**2.2900e-003**		**0.0595**	**0.0595**		**0.0560**	**0.0560**	**0.0000**	**197.0338**	**197.0338**	**0.0469**	**0.0000**	**198.2056**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0266	0.9608	0.1987	3.2100e-003	0.0758	9.2000e-004	0.0767	0.0219	8.7000e-004	0.0228	0.0000	304.8085	304.8085	0.0240	0.0000	305.4077
Worker	0.1577	0.1167	1.1271	3.3500e-003	0.4003	2.3700e-003	0.4027	0.1063	2.1800e-003	0.1085	0.0000	302.7257	302.7257	8.4400e-003	0.0000	302.9368
Total	**0.1843**	**1.0774**	**1.3258**	**6.5600e-003**	**0.4761**	**3.2900e-003**	**0.4794**	**0.1282**	**3.0500e-003**	**0.1313**	**0.0000**	**607.5342**	**607.5342**	**0.0324**	**0.0000**	**608.3445**

3.7 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0232	0.2293	0.3281	5.1000e-004		0.0115	0.0115		0.0106	0.0106	0.0000	45.0605	45.0605	0.0146	0.0000	45.4248
Paving	0.0224					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0456**	**0.2293**	**0.3281**	**5.1000e-004**		**0.0115**	**0.0115**		**0.0106**	**0.0106**	**0.0000**	**45.0605**	**45.0605**	**0.0146**	**0.0000**	**45.4248**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6600e-003	1.2300e-003	0.0119	4.0000e-005	4.2200e-003	2.0000e-005	4.2400e-003	1.1200e-003	2.0000e-005	1.1400e-003	0.0000	3.1883	3.1883	9.0000e-005	0.0000	3.1906
Total	**1.6600e-003**	**1.2300e-003**	**0.0119**	**4.0000e-005**	**4.2200e-003**	**2.0000e-005**	**4.2400e-003**	**1.1200e-003**	**2.0000e-005**	**1.1400e-003**	**0.0000**	**3.1883**	**3.1883**	**9.0000e-005**	**0.0000**	**3.1906**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0232	0.2293	0.3281	5.1000e-004		0.0115	0.0115		0.0106	0.0106	0.0000	45.0604	45.0604	0.0146	0.0000	45.4247
Paving	0.0224					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0456**	**0.2293**	**0.3281**	**5.1000e-004**		**0.0115**	**0.0115**		**0.0106**	**0.0106**	**0.0000**	**45.0604**	**45.0604**	**0.0146**	**0.0000**	**45.4247**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6600e-003	1.2300e-003	0.0119	4.0000e-005	4.2200e-003	2.0000e-005	4.2400e-003	1.1200e-003	2.0000e-005	1.1400e-003	0.0000	3.1883	3.1883	9.0000e-005	0.0000	3.1906
Total	**1.6600e-003**	**1.2300e-003**	**0.0119**	**4.0000e-005**	**4.2200e-003**	**2.0000e-005**	**4.2400e-003**	**1.1200e-003**	**2.0000e-005**	**1.1400e-003**	**0.0000**	**3.1883**	**3.1883**	**9.0000e-005**	**0.0000**	**3.1906**

3.8 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.1733					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.3100e-003	0.0293	0.0408	7.0000e-005		1.5900e-003	1.5900e-003		1.5900e-003	1.5900e-003	0.0000	5.7448	5.7448	3.4000e-004	0.0000	5.7534
Total	**1.1776**	**0.0293**	**0.0408**	**7.0000e-005**		**1.5900e-003**	**1.5900e-003**		**1.5900e-003**	**1.5900e-003**	**0.0000**	**5.7448**	**5.7448**	**3.4000e-004**	**0.0000**	**5.7534**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.3000e-003	6.1400e-003	0.0594	1.8000e-004	0.0211	1.2000e-004	0.0212	5.6000e-003	1.1000e-004	5.7100e-003	0.0000	15.9416	15.9416	4.4000e-004	0.0000	15.9528
Total	**8.3000e-003**	**6.1400e-003**	**0.0594**	**1.8000e-004**	**0.0211**	**1.2000e-004**	**0.0212**	**5.6000e-003**	**1.1000e-004**	**5.7100e-003**	**0.0000**	**15.9416**	**15.9416**	**4.4000e-004**	**0.0000**	**15.9528**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.1733					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.3100e-003	0.0293	0.0408	7.0000e-005		1.5900e-003	1.5900e-003		1.5900e-003	1.5900e-003	0.0000	5.7448	5.7448	3.4000e-004	0.0000	5.7534
Total	**1.1776**	**0.0293**	**0.0408**	**7.0000e-005**		**1.5900e-003**	**1.5900e-003**		**1.5900e-003**	**1.5900e-003**	**0.0000**	**5.7448**	**5.7448**	**3.4000e-004**	**0.0000**	**5.7534**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.3000e-003	6.1400e-003	0.0594	1.8000e-004	0.0211	1.2000e-004	0.0212	5.6000e-003	1.1000e-004	5.7100e-003	0.0000	15.9416	15.9416	4.4000e-004	0.0000	15.9528
Total	**8.3000e-003**	**6.1400e-003**	**0.0594**	**1.8000e-004**	**0.0211**	**1.2000e-004**	**0.0212**	**5.6000e-003**	**1.1000e-004**	**5.7100e-003**	**0.0000**	**15.9416**	**15.9416**	**4.4000e-004**	**0.0000**	**15.9528**

CalEEMod Output: Phase 1 Roadway Construction

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Construction_Phase 1 Roadways

Kings County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	6.60	Acre	6.60	287,496.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	37
Climate Zone	3			**Operational Year**	2021
Utility Company					
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - See assumptions file.

Off-road Equipment - See assumptions file.

Off-road Equipment - See assumptions file.

Off-road Equipment -

Off-road Equipment - See assumptions file.

Grading -

Trips and VMT - See assumptions file.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	56.00
tblConstructionPhase	NumDays	20.00	16.00
tblConstructionPhase	NumDays	20.00	60.00
tblConstructionPhase	NumDays	20.00	56.00
tblConstructionPhase	PhaseEndDate	3/24/2022	7/5/2021
tblConstructionPhase	PhaseEndDate	3/11/2021	1/22/2021
tblConstructionPhase	PhaseEndDate	2/24/2022	4/16/2021
tblConstructionPhase	PhaseStartDate	2/25/2022	4/19/2021
tblConstructionPhase	PhaseStartDate	2/12/2021	1/1/2021
tblConstructionPhase	PhaseStartDate	1/28/2022	1/25/2021
tblGrading	AcresOfGrading	0.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	WorkerTripNumber	8.00	15.00

tblTripsAndVMT	WorkerTripNumber	8.00	15.00
tblTripsAndVMT	WorkerTripNumber	8.00	15.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1339	0.5114	0.5638	1.0600e-003	0.0285	0.0257	0.0542	6.9800e-003	0.0238	0.0308	0.0000	94.1709	94.1709	0.0207	0.0000	94.6892
Maximum	**0.1339**	**0.5114**	**0.5638**	**1.0600e-003**	**0.0285**	**0.0257**	**0.0542**	**6.9800e-003**	**0.0238**	**0.0308**	**0.0000**	**94.1709**	**94.1709**	**0.0207**	**0.0000**	**94.6892**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1339	0.5114	0.5638	1.0600e-003	0.0285	0.0257	0.0542	6.9800e-003	0.0238	0.0308	0.0000	94.1708	94.1708	0.0207	0.0000	94.6891
Maximum	**0.1339**	**0.5114**	**0.5638**	**1.0600e-003**	**0.0285**	**0.0257**	**0.0542**	**6.9800e-003**	**0.0238**	**0.0308**	**0.0000**	**94.1708**	**94.1708**	**0.0207**	**0.0000**	**94.6891**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2021	3-31-2021	0.2368	0.2368
2	4-1-2021	6-30-2021	0.3776	0.3776
3	7-1-2021	9-30-2021	0.0228	0.0228
		Highest	0.3776	0.3776

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading/Excavation	Grading	1/1/2021	1/22/2021	5	16	
2	Road Paving_Aggregate Base	Paving	1/25/2021	4/16/2021	5	60	
3	Architectural Coating	Architectural Coating	4/19/2021	7/5/2021	5	56	
4	Road Pavement (topcoat)	Paving	4/19/2021	7/5/2021	5	56	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 6.6

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 17,250

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Road Pavement (topcoat)	Pavers	1	8.00	130	0.42
Road Pavement (topcoat)	Paving Equipment	0	8.00	132	0.36
Grading/Excavation	Excavators	0	8.00	158	0.38

Road Pavement (topcoat)	Rollers	2	8.00	80	0.38
Road Paving_Aggregate Base	Pavers	0	8.00	130	0.42
Road Paving_Aggregate Base	Rollers	2	8.00	80	0.38
Grading/Excavation	Rubber Tired Dozers	0	8.00	247	0.40
Grading/Excavation	Graders	0	8.00	187	0.41
Grading/Excavation	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Road Paving_Aggregate Base	Paving Equipment	1	8.00	132	0.36

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	24.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Road Pavement (topcoat)	3	15.00	10.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading/Excavation	3	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Road Paving_Aggregate	3	15.00	10.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Grading/Excavation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.2400e-003	0.0000	4.2400e-003	4.6000e-004	0.0000	4.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.4900e-003	0.0455	0.0543	7.0000e-005		2.6800e-003	2.6800e-003		2.4700e-003	2.4700e-003	0.0000	6.5513	6.5513	2.1200e-003	0.0000	6.6043
Total	**4.4900e-003**	**0.0455**	**0.0543**	**7.0000e-005**	**4.2400e-003**	**2.6800e-003**	**6.9200e-003**	**4.6000e-004**	**2.4700e-003**	**2.9300e-003**	**0.0000**	**6.5513**	**6.5513**	**2.1200e-003**	**0.0000**	**6.6043**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.8000e-004	5.5000e-004	5.1200e-003	1.0000e-005	1.5000e-003	1.0000e-005	1.5100e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.2205	1.2205	4.0000e-005	0.0000	1.2215
Total	**6.8000e-004**	**5.5000e-004**	**5.1200e-003**	**1.0000e-005**	**1.5000e-003**	**1.0000e-005**	**1.5100e-003**	**4.0000e-004**	**1.0000e-005**	**4.1000e-004**	**0.0000**	**1.2205**	**1.2205**	**4.0000e-005**	**0.0000**	**1.2215**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.2400e-003	0.0000	4.2400e-003	4.6000e-004	0.0000	4.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.4900e-003	0.0455	0.0543	7.0000e-005		2.6800e-003	2.6800e-003		2.4700e-003	2.4700e-003	0.0000	6.5513	6.5513	2.1200e-003	0.0000	6.6043
Total	**4.4900e-003**	**0.0455**	**0.0543**	**7.0000e-005**	**4.2400e-003**	**2.6800e-003**	**6.9200e-003**	**4.6000e-004**	**2.4700e-003**	**2.9300e-003**	**0.0000**	**6.5513**	**6.5513**	**2.1200e-003**	**0.0000**	**6.6043**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.8000e-004	5.5000e-004	5.1200e-003	1.0000e-005	1.5000e-003	1.0000e-005	1.5100e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.2205	1.2205	4.0000e-005	0.0000	1.2215
Total	**6.8000e-004**	**5.5000e-004**	**5.1200e-003**	**1.0000e-005**	**1.5000e-003**	**1.0000e-005**	**1.5100e-003**	**4.0000e-004**	**1.0000e-005**	**4.1000e-004**	**0.0000**	**1.2205**	**1.2205**	**4.0000e-005**	**0.0000**	**1.2215**

3.3 Road Paving_Aggregate Base - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0171	0.1737	0.1891	2.8000e-004		9.9300e-003	9.9300e-003		9.1400e-003	9.1400e-003	0.0000	24.5657	24.5657	7.9500e-003	0.0000	24.7643
Paving	8.6500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0258**	**0.1737**	**0.1891**	**2.8000e-004**		**9.9300e-003**	**9.9300e-003**		**9.1400e-003**	**9.1400e-003**	**0.0000**	**24.5657**	**24.5657**	**7.9500e-003**	**0.0000**	**24.7643**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.8000e-004	0.0318	6.2300e-003	8.0000e-005	1.8100e-003	9.0000e-005	1.9000e-003	5.2000e-004	9.0000e-005	6.1000e-004	0.0000	7.5174	7.5174	8.8000e-004	0.0000	7.5395
Worker	2.5700e-003	2.0500e-003	0.0192	5.0000e-005	5.6200e-003	4.0000e-005	5.6600e-003	1.4900e-003	3.0000e-005	1.5300e-003	0.0000	4.5768	4.5768	1.5000e-004	0.0000	4.5806
Total	**3.5500e-003**	**0.0339**	**0.0254**	**1.3000e-004**	**7.4300e-003**	**1.3000e-004**	**7.5600e-003**	**2.0100e-003**	**1.2000e-004**	**2.1400e-003**	**0.0000**	**12.0942**	**12.0942**	**1.0300e-003**	**0.0000**	**12.1201**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0171	0.1737	0.1891	2.8000e-004		9.9300e-003	9.9300e-003		9.1400e-003	9.1400e-003	0.0000	24.5656	24.5656	7.9500e-003	0.0000	24.7643
Paving	8.6500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0258**	**0.1737**	**0.1891**	**2.8000e-004**		**9.9300e-003**	**9.9300e-003**		**9.1400e-003**	**9.1400e-003**	**0.0000**	**24.5656**	**24.5656**	**7.9500e-003**	**0.0000**	**24.7643**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.8000e-004	0.0318	6.2300e-003	8.0000e-005	1.8100e-003	9.0000e-005	1.9000e-003	5.2000e-004	9.0000e-005	6.1000e-004	0.0000	7.5174	7.5174	8.8000e-004	0.0000	7.5395
Worker	2.5700e-003	2.0500e-003	0.0192	5.0000e-005	5.6200e-003	4.0000e-005	5.6600e-003	1.4900e-003	3.0000e-005	1.5300e-003	0.0000	4.5768	4.5768	1.5000e-004	0.0000	4.5806
Total	**3.5500e-003**	**0.0339**	**0.0254**	**1.3000e-004**	**7.4300e-003**	**1.3000e-004**	**7.5600e-003**	**2.0100e-003**	**1.2000e-004**	**2.1400e-003**	**0.0000**	**12.0942**	**12.0942**	**1.0300e-003**	**0.0000**	**12.1201**

3.4 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0600					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.1300e-003	0.0428	0.0509	8.0000e-005		2.6300e-003	2.6300e-003		2.6300e-003	2.6300e-003	0.0000	7.1491	7.1491	4.9000e-004	0.0000	7.1614
Total	**0.0661**	**0.0428**	**0.0509**	**8.0000e-005**		**2.6300e-003**	**2.6300e-003**		**2.6300e-003**	**2.6300e-003**	**0.0000**	**7.1491**	**7.1491**	**4.9000e-004**	**0.0000**	**7.1614**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8300e-003	3.0600e-003	0.0287	8.0000e-005	8.3900e-003	5.0000e-005	8.4500e-003	2.2300e-003	5.0000e-005	2.2800e-003	0.0000	6.8347	6.8347	2.2000e-004	0.0000	6.8404
Total	**3.8300e-003**	**3.0600e-003**	**0.0287**	**8.0000e-005**	**8.3900e-003**	**5.0000e-005**	**8.4500e-003**	**2.2300e-003**	**5.0000e-005**	**2.2800e-003**	**0.0000**	**6.8347**	**6.8347**	**2.2000e-004**	**0.0000**	**6.8404**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0600					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.1300e-003	0.0428	0.0509	8.0000e-005		2.6300e-003	2.6300e-003		2.6300e-003	2.6300e-003	0.0000	7.1491	7.1491	4.9000e-004	0.0000	7.1614
Total	**0.0661**	**0.0428**	**0.0509**	**8.0000e-005**		**2.6300e-003**	**2.6300e-003**		**2.6300e-003**	**2.6300e-003**	**0.0000**	**7.1491**	**7.1491**	**4.9000e-004**	**0.0000**	**7.1614**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8300e-003	3.0600e-003	0.0287	8.0000e-005	8.3900e-003	5.0000e-005	8.4500e-003	2.2300e-003	5.0000e-005	2.2800e-003	0.0000	6.8347	6.8347	2.2000e-004	0.0000	6.8404
Total	**3.8300e-003**	**3.0600e-003**	**0.0287**	**8.0000e-005**	**8.3900e-003**	**5.0000e-005**	**8.4500e-003**	**2.2300e-003**	**5.0000e-005**	**2.2800e-003**	**0.0000**	**6.8347**	**6.8347**	**2.2000e-004**	**0.0000**	**6.8404**

3.5 Road Pavement (topcoat) - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0175	0.1804	0.1866	2.8000e-004		0.0101	0.0101		9.2900e-003	9.2900e-003	0.0000	24.4674	24.4674	7.9100e-003	0.0000	24.6652
Paving	8.6500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0262**	**0.1804**	**0.1866**	**2.8000e-004**		**0.0101**	**0.0101**		**9.2900e-003**	**9.2900e-003**	**0.0000**	**24.4674**	**24.4674**	**7.9100e-003**	**0.0000**	**24.6652**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.2000e-004	0.0297	5.8100e-003	7.0000e-005	1.6900e-003	9.0000e-005	1.7700e-003	4.9000e-004	8.0000e-005	5.7000e-004	0.0000	7.0162	7.0162	8.3000e-004	0.0000	7.0369
Worker	2.3900e-003	1.9200e-003	0.0179	5.0000e-005	5.2500e-003	3.0000e-005	5.2800e-003	1.3900e-003	3.0000e-005	1.4200e-003	0.0000	4.2717	4.2717	1.4000e-004	0.0000	4.2752
Total	**3.3100e-003**	**0.0316**	**0.0237**	**1.2000e-004**	**6.9400e-003**	**1.2000e-004**	**7.0500e-003**	**1.8800e-003**	**1.1000e-004**	**1.9900e-003**	**0.0000**	**11.2880**	**11.2880**	**9.7000e-004**	**0.0000**	**11.3121**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0175	0.1804	0.1866	2.8000e-004		0.0101	0.0101		9.2900e-003	9.2900e-003	0.0000	24.4674	24.4674	7.9100e-003	0.0000	24.6652
Paving	8.6500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0262**	**0.1804**	**0.1866**	**2.8000e-004**		**0.0101**	**0.0101**		**9.2900e-003**	**9.2900e-003**	**0.0000**	**24.4674**	**24.4674**	**7.9100e-003**	**0.0000**	**24.6652**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.2000e-004	0.0297	5.8100e-003	7.0000e-005	1.6900e-003	9.0000e-005	1.7700e-003	4.9000e-004	8.0000e-005	5.7000e-004	0.0000	7.0162	7.0162	8.3000e-004	0.0000	7.0369
Worker	2.3900e-003	1.9200e-003	0.0179	5.0000e-005	5.2500e-003	3.0000e-005	5.2800e-003	1.3900e-003	3.0000e-005	1.4200e-003	0.0000	4.2717	4.2717	1.4000e-004	0.0000	4.2752
Total	**3.3100e-003**	**0.0316**	**0.0237**	**1.2000e-004**	**6.9400e-003**	**1.2000e-004**	**7.0500e-003**	**1.8800e-003**	**1.1000e-004**	**1.9900e-003**	**0.0000**	**11.2880**	**11.2880**	**9.7000e-004**	**0.0000**	**11.3121**

CalEEMod Output: Water Pipelines Construction

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Construction - Pipeline

Kings County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	590.30	1000sqft	13.55	590,304.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	37
Climate Zone	3			**Operational Year**	2021
Utility Company					
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - See assumptions file.

Off-road Equipment - See assumptions file

Off-road Equipment - See assumptions file

Off-road Equipment - See assumptions file

Off-road Equipment - See assumptions file

Off-road Equipment - See assumptions file

Off-road Equipment - See assumptions file

Grading -

Demolition -

Trips and VMT - See assumptions file

Architectural Coating - See assumptions file

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	35,418.00	17,709.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	20.00	2.00
tblConstructionPhase	NumDays	30.00	6.00
tblConstructionPhase	NumDays	20.00	5.00
tblConstructionPhase	NumDays	20.00	4.00
tblConstructionPhase	PhaseEndDate	7/14/2022	3/12/2021
tblConstructionPhase	PhaseEndDate	1/28/2021	1/4/2021
tblConstructionPhase	PhaseEndDate	3/25/2021	2/19/2021
tblConstructionPhase	PhaseEndDate	6/16/2022	2/26/2021
tblConstructionPhase	PhaseStartDate	6/17/2022	3/1/2021
tblConstructionPhase	PhaseStartDate	5/20/2022	2/22/2021
tblOffRoadEquipment	HorsePower	85.00	325.00
tblOffRoadEquipment	HorsePower	97.00	93.00
tblOffRoadEquipment	HorsePower	97.00	230.00
tblOffRoadEquipment	HorsePower	97.00	127.00
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders

tblOffRoadEquipment	OffRoadEquipmentType		Crushing/Proc. Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00

2.0 Emissions Summary

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2021	1/4/2021	5	2	
2	Onsite Demolition Debris Reprocessing	Demolition	1/5/2021	1/8/2021	5	4	
3	Utility Trenching	Trenching	1/11/2021	2/11/2021	5	24	
4	Fine Grading	Grading	2/12/2021	2/19/2021	5	6	
5	Asphalt Paving	Paving	2/22/2021	2/26/2021	5	5	
6	Finishing/Landscaping	Architectural Coating	3/1/2021	3/12/2021	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 13.55

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 17,709

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Finishing/Landscaping	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	0	8.00	158	0.38
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Fine Grading	Excavators	0	8.00	158	0.38
Onsite Demolition Debris Reprocessing	Concrete/Industrial Saws	0	8.00	81	0.73
Onsite Demolition Debris Reprocessing	Excavators	0	8.00	158	0.38
Onsite Demolition Debris Reprocessing	Rubber Tired Dozers	0	8.00	247	0.40
Asphalt Paving	Pavers	0	8.00	130	0.42
Asphalt Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Fine Grading	Rubber Tired Dozers	0	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Fine Grading	Graders	0	8.00	187	0.41
Fine Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Asphalt Paving	Paving Equipment	1	8.00	132	0.36
Demolition	Dumpers/Tenders	1	8.00	16	0.38
Onsite Demolition Debris Reprocessing	Crushing/Proc. Equipment	1	8.00	325	0.78
Fine Grading	Scrapers	0	8.00	367	0.48
Utility Trenching	Concrete/Industrial Saws	1	8.00	81	0.73
Utility Trenching	Cranes	1	8.00	231	0.29
Utility Trenching	Dumpers/Tenders	1	8.00	16	0.38
Utility Trenching	Excavators	1	8.00	158	0.38
Utility Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Fine Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Fine Grading	Air Compressors	1	8.00	78	0.48

Fine Grading	Dumpers/Tenders	1	8.00	16	0.38
Asphalt Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Finishing/Landscaping	Tractors/Loaders/Backhoes	1	8.00	93	0.37
Finishing/Landscaping	Tractors/Loaders/Backhoes	1	8.00	230	0.37
Finishing/Landscaping	Tractors/Loaders/Backhoes	1	8.00	127	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Finishing/Landscaping	4	50.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Onsite Demolition	1	3.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Debris Reprocessing										
Demolition	3	8.00	6.00	292.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading	4	10.00	6.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Asphalt Paving	4	10.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Utility Trenching	5	13.00	6.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0316	0.0000	0.0316	4.7900e-003	0.0000	4.7900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3100e-003	0.0133	6.5500e-003	1.0000e-005		6.6000e-004	6.6000e-004		6.1000e-004	6.1000e-004	0.0000	1.0788	1.0788	3.4000e-004	0.0000	1.0872
Total	**1.3100e-003**	**0.0133**	**6.5500e-003**	**1.0000e-005**	**0.0316**	**6.6000e-004**	**0.0323**	**4.7900e-003**	**6.1000e-004**	**5.4000e-003**	**0.0000**	**1.0788**	**1.0788**	**3.4000e-004**	**0.0000**	**1.0872**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.1100e-003	0.0374	5.3900e-003	1.2000e-004	2.5100e-003	1.2000e-004	2.6300e-003	6.9000e-004	1.2000e-004	8.1000e-004	0.0000	10.9813	10.9813	8.5000e-004	0.0000	11.0027
Vendor	2.0000e-005	6.4000e-004	1.2000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1504	0.1504	2.0000e-005	0.0000	0.1508
Worker	5.0000e-005	4.0000e-005	3.4000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0814	0.0814	0.0000	0.0000	0.0814
Total	**1.1800e-003**	**0.0381**	**5.8500e-003**	**1.2000e-004**	**2.6500e-003**	**1.2000e-004**	**2.7700e-003**	**7.3000e-004**	**1.2000e-004**	**8.5000e-004**	**0.0000**	**11.2131**	**11.2131**	**8.7000e-004**	**0.0000**	**11.2349**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0316	0.0000	0.0316	4.7900e-003	0.0000	4.7900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3100e-003	0.0133	6.5500e-003	1.0000e-005		6.6000e-004	6.6000e-004		6.1000e-004	6.1000e-004	0.0000	1.0788	1.0788	3.4000e-004	0.0000	1.0872
Total	**1.3100e-003**	**0.0133**	**6.5500e-003**	**1.0000e-005**	**0.0316**	**6.6000e-004**	**0.0323**	**4.7900e-003**	**6.1000e-004**	**5.4000e-003**	**0.0000**	**1.0788**	**1.0788**	**3.4000e-004**	**0.0000**	**1.0872**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.1100e-003	0.0374	5.3900e-003	1.2000e-004	2.5100e-003	1.2000e-004	2.6300e-003	6.9000e-004	1.2000e-004	8.1000e-004	0.0000	10.9813	10.9813	8.5000e-004	0.0000	11.0027
Vendor	2.0000e-005	6.4000e-004	1.2000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1504	0.1504	2.0000e-005	0.0000	0.1508
Worker	5.0000e-005	4.0000e-005	3.4000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0814	0.0814	0.0000	0.0000	0.0814
Total	**1.1800e-003**	**0.0381**	**5.8500e-003**	**1.2000e-004**	**2.6500e-003**	**1.2000e-004**	**2.7700e-003**	**7.3000e-004**	**1.2000e-004**	**8.5000e-004**	**0.0000**	**11.2131**	**11.2131**	**8.7000e-004**	**0.0000**	**11.2349**

3.3 Onsite Demolition Debris Reprocessing - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.4000e-003	0.0141	9.5900e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	4.6101	4.6101	1.9000e-004	0.0000	4.6149
Total	**2.4000e-003**	**0.0141**	**9.5900e-003**	**4.0000e-005**		**4.9000e-004**	**4.9000e-004**		**4.9000e-004**	**4.9000e-004**	**0.0000**	**4.6101**	**4.6101**	**1.9000e-004**	**0.0000**	**4.6149**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	3.0000e-005	2.6000e-004	0.0000	7.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0610	0.0610	0.0000	0.0000	0.0611
Total	**3.0000e-005**	**3.0000e-005**	**2.6000e-004**	**0.0000**	**7.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0610**	**0.0610**	**0.0000**	**0.0000**	**0.0611**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.4000e-003	0.0141	9.5900e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	4.6100	4.6100	1.9000e-004	0.0000	4.6149
Total	**2.4000e-003**	**0.0141**	**9.5900e-003**	**4.0000e-005**		**4.9000e-004**	**4.9000e-004**		**4.9000e-004**	**4.9000e-004**	**0.0000**	**4.6100**	**4.6100**	**1.9000e-004**	**0.0000**	**4.6149**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	3.0000e-005	2.6000e-004	0.0000	7.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0610	0.0610	0.0000	0.0000	0.0611
Total	**3.0000e-005**	**3.0000e-005**	**2.6000e-004**	**0.0000**	**7.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0610**	**0.0610**	**0.0000**	**0.0000**	**0.0611**

3.4 Utility Trenching - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0155	0.1488	0.1373	2.5000e-004		7.2400e-003	7.2400e-003		6.8500e-003	6.8500e-003	0.0000	21.9187	21.9187	5.2300e-003	0.0000	22.0495
Total	**0.0155**	**0.1488**	**0.1373**	**2.5000e-004**		**7.2400e-003**	**7.2400e-003**		**6.8500e-003**	**6.8500e-003**	**0.0000**	**21.9187**	**21.9187**	**5.2300e-003**	**0.0000**	**22.0495**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4000e-004	7.6400e-003	1.4900e-003	2.0000e-005	4.3000e-004	2.0000e-005	4.6000e-004	1.3000e-004	2.0000e-005	1.5000e-004	0.0000	1.8042	1.8042	2.1000e-004	0.0000	1.8095
Worker	8.9000e-004	7.1000e-004	6.6500e-003	2.0000e-005	1.9500e-003	1.0000e-005	1.9600e-003	5.2000e-004	1.0000e-005	5.3000e-004	0.0000	1.5866	1.5866	5.0000e-005	0.0000	1.5879
Total	**1.1300e-003**	**8.3500e-003**	**8.1400e-003**	**4.0000e-005**	**2.3800e-003**	**3.0000e-005**	**2.4200e-003**	**6.5000e-004**	**3.0000e-005**	**6.8000e-004**	**0.0000**	**3.3908**	**3.3908**	**2.6000e-004**	**0.0000**	**3.3974**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0155	0.1488	0.1373	2.5000e-004		7.2400e-003	7.2400e-003		6.8500e-003	6.8500e-003	0.0000	21.9187	21.9187	5.2300e-003	0.0000	22.0495
Total	**0.0155**	**0.1488**	**0.1373**	**2.5000e-004**		**7.2400e-003**	**7.2400e-003**		**6.8500e-003**	**6.8500e-003**	**0.0000**	**21.9187**	**21.9187**	**5.2300e-003**	**0.0000**	**22.0495**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4000e-004	7.6400e-003	1.4900e-003	2.0000e-005	4.3000e-004	2.0000e-005	4.6000e-004	1.3000e-004	2.0000e-005	1.5000e-004	0.0000	1.8042	1.8042	2.1000e-004	0.0000	1.8095
Worker	8.9000e-004	7.1000e-004	6.6500e-003	2.0000e-005	1.9500e-003	1.0000e-005	1.9600e-003	5.2000e-004	1.0000e-005	5.3000e-004	0.0000	1.5866	1.5866	5.0000e-005	0.0000	1.5879
Total	**1.1300e-003**	**8.3500e-003**	**8.1400e-003**	**4.0000e-005**	**2.3800e-003**	**3.0000e-005**	**2.4200e-003**	**6.5000e-004**	**3.0000e-005**	**6.8000e-004**	**0.0000**	**3.3908**	**3.3908**	**2.6000e-004**	**0.0000**	**3.3974**

3.5 Fine Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8100e-003	0.0223	0.0258	4.0000e-005		1.2800e-003	1.2800e-003		1.2600e-003	1.2600e-003	0.0000	3.6190	3.6190	4.5000e-004	0.0000	3.6302
Total	**2.8100e-003**	**0.0223**	**0.0258**	**4.0000e-005**	**0.0000**	**1.2800e-003**	**1.2800e-003**	**0.0000**	**1.2600e-003**	**1.2600e-003**	**0.0000**	**3.6190**	**3.6190**	**4.5000e-004**	**0.0000**	**3.6302**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-005	1.9100e-003	3.7000e-004	0.0000	1.1000e-004	1.0000e-005	1.1000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.4510	0.4510	5.0000e-005	0.0000	0.4524
Worker	1.7000e-004	1.4000e-004	1.2800e-003	0.0000	3.7000e-004	0.0000	3.8000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3051	0.3051	1.0000e-005	0.0000	0.3054
Total	**2.3000e-004**	**2.0500e-003**	**1.6500e-003**	**0.0000**	**4.8000e-004**	**1.0000e-005**	**4.9000e-004**	**1.3000e-004**	**1.0000e-005**	**1.4000e-004**	**0.0000**	**0.7562**	**0.7562**	**6.0000e-005**	**0.0000**	**0.7577**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8100e-003	0.0223	0.0258	4.0000e-005		1.2800e-003	1.2800e-003		1.2600e-003	1.2600e-003	0.0000	3.6190	3.6190	4.5000e-004	0.0000	3.6302
Total	**2.8100e-003**	**0.0223**	**0.0258**	**4.0000e-005**	**0.0000**	**1.2800e-003**	**1.2800e-003**	**0.0000**	**1.2600e-003**	**1.2600e-003**	**0.0000**	**3.6190**	**3.6190**	**4.5000e-004**	**0.0000**	**3.6302**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-005	1.9100e-003	3.7000e-004	0.0000	1.1000e-004	1.0000e-005	1.1000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.4510	0.4510	5.0000e-005	0.0000	0.4524
Worker	1.7000e-004	1.4000e-004	1.2800e-003	0.0000	3.7000e-004	0.0000	3.8000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3051	0.3051	1.0000e-005	0.0000	0.3054
Total	**2.3000e-004**	**2.0500e-003**	**1.6500e-003**	**0.0000**	**4.8000e-004**	**1.0000e-005**	**4.9000e-004**	**1.3000e-004**	**1.0000e-005**	**1.4000e-004**	**0.0000**	**0.7562**	**0.7562**	**6.0000e-005**	**0.0000**	**0.7577**

3.6 Asphalt Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.5700e-003	0.0154	0.0165	3.0000e-005		8.6000e-004	8.6000e-004		8.0000e-004	8.0000e-004	0.0000	2.1617	2.1617	6.7000e-004	0.0000	2.1786
Paving	0.0178					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0193**	**0.0154**	**0.0165**	**3.0000e-005**		**8.6000e-004**	**8.6000e-004**		**8.0000e-004**	**8.0000e-004**	**0.0000**	**2.1617**	**2.1617**	**6.7000e-004**	**0.0000**	**2.1786**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	5.3000e-004	1.0000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1253	0.1253	1.0000e-005	0.0000	0.1257
Worker	1.4000e-004	1.1000e-004	1.0700e-003	0.0000	3.1000e-004	0.0000	3.1000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2543	0.2543	1.0000e-005	0.0000	0.2545
Total	**1.6000e-004**	**6.4000e-004**	**1.1700e-003**	**0.0000**	**3.4000e-004**	**0.0000**	**3.4000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.3796**	**0.3796**	**2.0000e-005**	**0.0000**	**0.3801**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.5700e-003	0.0154	0.0165	3.0000e-005		8.6000e-004	8.6000e-004		8.0000e-004	8.0000e-004	0.0000	2.1617	2.1617	6.7000e-004	0.0000	2.1786
Paving	0.0178					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0193**	**0.0154**	**0.0165**	**3.0000e-005**		**8.6000e-004**	**8.6000e-004**		**8.0000e-004**	**8.0000e-004**	**0.0000**	**2.1617**	**2.1617**	**6.7000e-004**	**0.0000**	**2.1786**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	5.3000e-004	1.0000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1253	0.1253	1.0000e-005	0.0000	0.1257
Worker	1.4000e-004	1.1000e-004	1.0700e-003	0.0000	3.1000e-004	0.0000	3.1000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2543	0.2543	1.0000e-005	0.0000	0.2545
Total	**1.6000e-004**	**6.4000e-004**	**1.1700e-003**	**0.0000**	**3.4000e-004**	**0.0000**	**3.4000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.3796**	**0.3796**	**2.0000e-005**	**0.0000**	**0.3801**

3.7 Finishing/Landscaping - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0616					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.4800e-003	0.0431	0.0416	9.0000e-005		2.0400e-003	2.0400e-003		1.9100e-003	1.9100e-003	0.0000	7.5464	7.5464	2.1200e-003	0.0000	7.5993
Total	**0.0660**	**0.0431**	**0.0416**	**9.0000e-005**		**2.0400e-003**	**2.0400e-003**		**1.9100e-003**	**1.9100e-003**	**0.0000**	**7.5464**	**7.5464**	**2.1200e-003**	**0.0000**	**7.5993**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4300e-003	1.1400e-003	0.0107	3.0000e-005	3.1200e-003	2.0000e-005	3.1400e-003	8.3000e-004	2.0000e-005	8.5000e-004	0.0000	2.5427	2.5427	8.0000e-005	0.0000	2.5448
Total	**1.4300e-003**	**1.1400e-003**	**0.0107**	**3.0000e-005**	**3.1200e-003**	**2.0000e-005**	**3.1400e-003**	**8.3000e-004**	**2.0000e-005**	**8.5000e-004**	**0.0000**	**2.5427**	**2.5427**	**8.0000e-005**	**0.0000**	**2.5448**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0616					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.4800e-003	0.0431	0.0416	9.0000e-005		2.0400e-003	2.0400e-003		1.9100e-003	1.9100e-003	0.0000	7.5464	7.5464	2.1200e-003	0.0000	7.5993
Total	**0.0660**	**0.0431**	**0.0416**	**9.0000e-005**		**2.0400e-003**	**2.0400e-003**		**1.9100e-003**	**1.9100e-003**	**0.0000**	**7.5464**	**7.5464**	**2.1200e-003**	**0.0000**	**7.5993**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4300e-003	1.1400e-003	0.0107	3.0000e-005	3.1200e-003	2.0000e-005	3.1400e-003	8.3000e-004	2.0000e-005	8.5000e-004	0.0000	2.5427	2.5427	8.0000e-005	0.0000	2.5448
Total	**1.4300e-003**	**1.1400e-003**	**0.0107**	**3.0000e-005**	**3.1200e-003**	**2.0000e-005**	**3.1400e-003**	**8.3000e-004**	**2.0000e-005**	**8.5000e-004**	**0.0000**	**2.5427**	**2.5427**	**8.0000e-005**	**0.0000**	**2.5448**

CalEEMod Output: Wastewater Treatment Facility Construction

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Construction WWTF
Kings County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	6.20	Acre	6.20	270,072.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	37
Climate Zone	3			**Operational Year**	2021
Utility Company					
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - See assumptions file.

Off-road Equipment -

Grading -

Trips and VMT -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	230.00	71.00
tblConstructionPhase	NumDays	20.00	7.00
tblConstructionPhase	NumDays	20.00	7.00
tblConstructionPhase	NumDays	10.00	3.00
tblConstructionPhase	PhaseEndDate	1/27/2022	4/23/2021
tblConstructionPhase	PhaseEndDate	3/11/2021	1/14/2021
tblConstructionPhase	PhaseEndDate	2/24/2022	5/4/2021
tblConstructionPhase	PhaseEndDate	2/11/2021	1/5/2021
tblConstructionPhase	PhaseStartDate	3/12/2021	1/15/2021
tblConstructionPhase	PhaseStartDate	2/12/2021	1/6/2021
tblConstructionPhase	PhaseStartDate	1/28/2022	4/26/2021
tblConstructionPhase	PhaseStartDate	1/29/2021	1/1/2021
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1226	0.9959	0.9361	2.0800e-003	0.1112	0.0443	0.1555	0.0432	0.0415	0.0846	0.0000	184.6566	184.6566	0.0327	0.0000	185.4733
Maximum	**0.1226**	**0.9959**	**0.9361**	**2.0800e-003**	**0.1112**	**0.0443**	**0.1555**	**0.0432**	**0.0415**	**0.0846**	**0.0000**	**184.6566**	**184.6566**	**0.0327**	**0.0000**	**185.4733**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1226	0.9959	0.9361	2.0800e-003	0.1112	0.0443	0.1555	0.0432	0.0415	0.0846	0.0000	184.6565	184.6565	0.0327	0.0000	185.4731
Maximum	**0.1226**	**0.9959**	**0.9361**	**2.0800e-003**	**0.1112**	**0.0443**	**0.1555**	**0.0432**	**0.0415**	**0.0846**	**0.0000**	**184.6565**	**184.6565**	**0.0327**	**0.0000**	**185.4731**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2021**	**3-31-2021**	0.8565	0.8565
2	**4-1-2021**	**6-30-2021**	0.2611	0.2611
		Highest	0.8565	0.8565

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2021	1/5/2021	5	3	
2	Grading	Grading	1/6/2021	1/14/2021	5	7	
3	Building Construction	Building Construction	1/15/2021	4/23/2021	5	71	
4	Paving	Paving	4/26/2021	5/4/2021	5	7	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 3.5

Acres of Paving: 6.2

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Construction	9	113.00	44.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0271	0.0000	0.0271	0.0149	0.0000	0.0149	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.8300e-003	0.0608	0.0317	6.0000e-005		3.0700e-003	3.0700e-003		2.8200e-003	2.8200e-003	0.0000	5.0154	5.0154	1.6200e-003	0.0000	5.0559
Total	**5.8300e-003**	**0.0608**	**0.0317**	**6.0000e-005**	**0.0271**	**3.0700e-003**	**0.0302**	**0.0149**	**2.8200e-003**	**0.0177**	**0.0000**	**5.0154**	**5.0154**	**1.6200e-003**	**0.0000**	**5.0559**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5000e-004	1.2000e-004	1.1500e-003	0.0000	3.4000e-004	0.0000	3.4000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2746	0.2746	1.0000e-005	0.0000	0.2748
Total	**1.5000e-004**	**1.2000e-004**	**1.1500e-003**	**0.0000**	**3.4000e-004**	**0.0000**	**3.4000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.2746**	**0.2746**	**1.0000e-005**	**0.0000**	**0.2748**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0271	0.0000	0.0271	0.0149	0.0000	0.0149	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.8300e-003	0.0608	0.0317	6.0000e-005		3.0700e-003	3.0700e-003		2.8200e-003	2.8200e-003	0.0000	5.0154	5.0154	1.6200e-003	0.0000	5.0559
Total	**5.8300e-003**	**0.0608**	**0.0317**	**6.0000e-005**	**0.0271**	**3.0700e-003**	**0.0302**	**0.0149**	**2.8200e-003**	**0.0177**	**0.0000**	**5.0154**	**5.0154**	**1.6200e-003**	**0.0000**	**5.0559**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5000e-004	1.2000e-004	1.1500e-003	0.0000	3.4000e-004	0.0000	3.4000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2746	0.2746	1.0000e-005	0.0000	0.2748
Total	**1.5000e-004**	**1.2000e-004**	**1.1500e-003**	**0.0000**	**3.4000e-004**	**0.0000**	**3.4000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.2746**	**0.2746**	**1.0000e-005**	**0.0000**	**0.2748**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0229	0.0000	0.0229	0.0118	0.0000	0.0118	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0200e-003	0.0866	0.0555	1.0000e-004		4.0600e-003	4.0600e-003		3.7300e-003	3.7300e-003	0.0000	9.1188	9.1188	2.9500e-003	0.0000	9.1925
Total	**8.0200e-003**	**0.0866**	**0.0555**	**1.0000e-004**	**0.0229**	**4.0600e-003**	**0.0270**	**0.0118**	**3.7300e-003**	**0.0155**	**0.0000**	**9.1188**	**9.1188**	**2.9500e-003**	**0.0000**	**9.1925**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	2.4000e-004	2.2400e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.7000e-004	0.0000	1.8000e-004	0.0000	0.5340	0.5340	2.0000e-005	0.0000	0.5344
Total	**3.0000e-004**	**2.4000e-004**	**2.2400e-003**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**6.6000e-004**	**1.7000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5340**	**0.5340**	**2.0000e-005**	**0.0000**	**0.5344**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0229	0.0000	0.0229	0.0118	0.0000	0.0118	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0200e-003	0.0866	0.0555	1.0000e-004		4.0600e-003	4.0600e-003		3.7300e-003	3.7300e-003	0.0000	9.1188	9.1188	2.9500e-003	0.0000	9.1925
Total	**8.0200e-003**	**0.0866**	**0.0555**	**1.0000e-004**	**0.0229**	**4.0600e-003**	**0.0270**	**0.0118**	**3.7300e-003**	**0.0155**	**0.0000**	**9.1188**	**9.1188**	**2.9500e-003**	**0.0000**	**9.1925**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	2.4000e-004	2.2400e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.7000e-004	0.0000	1.8000e-004	0.0000	0.5340	0.5340	2.0000e-005	0.0000	0.5344
Total	**3.0000e-004**	**2.4000e-004**	**2.2400e-003**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**6.6000e-004**	**1.7000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5340**	**0.5340**	**2.0000e-005**	**0.0000**	**0.5344**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0675	0.6188	0.5884	9.6000e-004		0.0340	0.0340		0.0320	0.0320	0.0000	82.2312	82.2312	0.0198	0.0000	82.7272
Total	**0.0675**	**0.6188**	**0.5884**	**9.6000e-004**		**0.0340**	**0.0340**		**0.0320**	**0.0320**	**0.0000**	**82.2312**	**82.2312**	**0.0198**	**0.0000**	**82.7272**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.1200e-003	0.1657	0.0324	4.1000e-004	9.4100e-003	4.8000e-004	9.8900e-003	2.7200e-003	4.6000e-004	3.1800e-003	0.0000	39.1406	39.1406	4.6000e-003	0.0000	39.2557
Worker	0.0229	0.0183	0.1711	4.5000e-004	0.0501	3.2000e-004	0.0504	0.0133	2.9000e-004	0.0136	0.0000	40.7999	40.7999	1.3400e-003	0.0000	40.8335
Total	**0.0280**	**0.1839**	**0.2035**	**8.6000e-004**	**0.0595**	**8.0000e-004**	**0.0603**	**0.0160**	**7.5000e-004**	**0.0168**	**0.0000**	**79.9405**	**79.9405**	**5.9400e-003**	**0.0000**	**80.0891**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0675	0.6188	0.5884	9.6000e-004		0.0340	0.0340		0.0320	0.0320	0.0000	82.2311	82.2311	0.0198	0.0000	82.7271
Total	**0.0675**	**0.6188**	**0.5884**	**9.6000e-004**		**0.0340**	**0.0340**		**0.0320**	**0.0320**	**0.0000**	**82.2311**	**82.2311**	**0.0198**	**0.0000**	**82.7271**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.1200e-003	0.1657	0.0324	4.1000e-004	9.4100e-003	4.8000e-004	9.8900e-003	2.7200e-003	4.6000e-004	3.1800e-003	0.0000	39.1406	39.1406	4.6000e-003	0.0000	39.2557
Worker	0.0229	0.0183	0.1711	4.5000e-004	0.0501	3.2000e-004	0.0504	0.0133	2.9000e-004	0.0136	0.0000	40.7999	40.7999	1.3400e-003	0.0000	40.8335
Total	**0.0280**	**0.1839**	**0.2035**	**8.6000e-004**	**0.0595**	**8.0000e-004**	**0.0603**	**0.0160**	**7.5000e-004**	**0.0168**	**0.0000**	**79.9405**	**79.9405**	**5.9400e-003**	**0.0000**	**80.0891**

3.5 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.3900e-003	0.0452	0.0513	8.0000e-005		2.3700e-003	2.3700e-003		2.1800e-003	2.1800e-003	0.0000	7.0082	7.0082	2.2700e-003	0.0000	7.0649
Paving	8.1200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0125**	**0.0452**	**0.0513**	**8.0000e-005**		**2.3700e-003**	**2.3700e-003**		**2.1800e-003**	**2.1800e-003**	**0.0000**	**7.0082**	**7.0082**	**2.2700e-003**	**0.0000**	**7.0649**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	2.4000e-004	2.2400e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.7000e-004	0.0000	1.8000e-004	0.0000	0.5340	0.5340	2.0000e-005	0.0000	0.5344
Total	**3.0000e-004**	**2.4000e-004**	**2.2400e-003**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**6.6000e-004**	**1.7000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5340**	**0.5340**	**2.0000e-005**	**0.0000**	**0.5344**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.3900e-003	0.0452	0.0513	8.0000e-005		2.3700e-003	2.3700e-003		2.1800e-003	2.1800e-003	0.0000	7.0082	7.0082	2.2700e-003	0.0000	7.0649
Paving	8.1200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0125**	**0.0452**	**0.0513**	**8.0000e-005**		**2.3700e-003**	**2.3700e-003**		**2.1800e-003**	**2.1800e-003**	**0.0000**	**7.0082**	**7.0082**	**2.2700e-003**	**0.0000**	**7.0649**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	2.4000e-004	2.2400e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.7000e-004	0.0000	1.8000e-004	0.0000	0.5340	0.5340	2.0000e-005	0.0000	0.5344
Total	**3.0000e-004**	**2.4000e-004**	**2.2400e-003**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**6.6000e-004**	**1.7000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5340**	**0.5340**	**2.0000e-005**	**0.0000**	**0.5344**

CalEEMod Output: Phase 2 Construction

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Construction Phase 2 - Kings County, Annual

Construction Phase 2

Kings County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	470.45	1000sqft	10.80	470,448.00	0
Unrefrigerated Warehouse-No Rail	1,864.15	1000sqft	42.79	1,864,149.00	0
Other Asphalt Surfaces	60.52	Acre	60.52	2,636,035.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	37
Climate Zone	3			**Operational Year**	2040
Utility Company					
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - See assumptions file

Construction Phase - See assumptions file.

Off-road Equipment - See assumptions file.

Grading -

Demolition -

Trips and VMT - See assumptions file.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	220.00	234.00
tblConstructionPhase	NumDays	3,100.00	3,298.00
tblConstructionPhase	NumDays	200.00	20.00
tblConstructionPhase	NumDays	310.00	330.00
tblConstructionPhase	NumDays	220.00	234.00
tblConstructionPhase	NumDays	120.00	128.00
tblConstructionPhase	NumDays	200.00	20.00
tblConstructionPhase	PhaseEndDate	12/23/2039	11/21/2024
tblConstructionPhase	PhaseEndDate	4/16/2038	8/20/2036
tblConstructionPhase	PhaseEndDate	10/4/2024	1/26/2024
tblConstructionPhase	PhaseEndDate	5/29/2026	4/4/2025
tblConstructionPhase	PhaseEndDate	2/18/2039	11/21/2024
tblConstructionPhase	PhaseEndDate	3/21/2025	6/26/2024
tblConstructionPhase	PhaseStartDate	2/19/2039	1/1/2024
tblConstructionPhase	PhaseStartDate	5/30/2026	1/1/2024
tblConstructionPhase	PhaseStartDate	3/22/2025	1/1/2024
tblConstructionPhase	PhaseStartDate	4/17/2038	1/1/2024
tblConstructionPhase	PhaseStartDate	10/5/2024	1/1/2024
tblLandUse	LandUseSquareFeet	1,864,150.00	1,864,149.00
tblLandUse	LandUseSquareFeet	2,636,251.20	2,636,035.00
tblOffRoadEquipment	HorsePower	85.00	325.00
tblOffRoadEquipment	OffRoadEquipmentType		Crushing/Proc. Equipment

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripNumber	98.00	100.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	19.5489	18.4705	21.3283	0.0781	7.1412	0.4386	7.5797	2.3943	0.4062	2.8005	0.0000	7,129.5736	7,129.5736	0.7471	0.0000	7,148.2506
2025	1.6741	11.3505	12.6332	0.0588	4.6959	0.1342	4.8302	1.2515	0.1252	1.3766	0.0000	5,417.2397	5,417.2397	0.4000	0.0000	5,427.2388
2026	1.5075	10.2343	11.1692	0.0557	4.0444	0.0955	4.1399	1.0892	0.0895	1.1787	0.0000	5,135.7224	5,135.7224	0.3389	0.0000	5,144.1936
2027	1.4417	10.0892	10.5807	0.0546	4.0444	0.0945	4.1389	1.0892	0.0886	1.1778	0.0000	5,043.9546	5,043.9546	0.3364	0.0000	5,052.3651
2028	1.3696	9.9286	10.0345	0.0536	4.0290	0.0928	4.1217	1.0850	0.0870	1.1720	0.0000	4,945.0657	4,945.0657	0.3325	0.0000	4,953.3783
2029	1.3067	9.8502	9.5941	0.0530	4.0445	0.0919	4.1363	1.0892	0.0862	1.1754	0.0000	4,893.4701	4,893.4701	0.3310	0.0000	4,901.7457
2030	1.2287	9.1518	9.1622	0.0528	4.0445	0.0412	4.0856	1.0892	0.0397	1.1289	0.0000	4,872.4126	4,872.4126	0.2703	0.0000	4,879.1711

2031	1.1559	9.0561	8.7371	0.0522	4.0445	0.0401	4.0845	1.0892	0.0387	1.1279	0.0000	4,819.2578	4,819.2578	0.2682	0.0000	4,825.9638
2032	1.0943	9.0055	8.3999	0.0519	4.0600	0.0392	4.0992	1.0934	0.0379	1.1313	0.0000	4,792.7300	4,792.7300	0.2672	0.0000	4,799.4103
2033	1.0274	8.8617	8.0153	0.0511	4.0290	0.0380	4.0670	1.0850	0.0368	1.1218	0.0000	4,718.0336	4,718.0336	0.2632	0.0000	4,724.6132
2034	0.9813	8.7996	7.7289	0.0508	4.0290	0.0372	4.0661	1.0850	0.0360	1.1210	0.0000	4,685.8924	4,685.8924	0.2607	0.0000	4,692.4110
2035	0.9340	8.6820	7.5163	0.0507	4.0445	0.0290	4.0735	1.0892	0.0279	1.1171	0.0000	4,676.7468	4,676.7468	0.2592	0.0000	4,683.2265
2036	0.5976	5.5551	4.8093	0.0324	2.5878	0.0186	2.6064	0.6969	0.0179	0.7148	0.0000	2,992.4012	2,992.4012	0.1658	0.0000	2,996.5472
Maximum	**19.5489**	**18.4705**	**21.3283**	**0.0781**	**7.1412**	**0.4386**	**7.5797**	**2.3943**	**0.4062**	**2.8005**	**0.0000**	**7,129.5736**	**7,129.5736**	**0.7471**	**0.0000**	**7,148.2506**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	19.5489	18.4705	21.3283	0.0781	7.1412	0.4386	7.5797	2.3943	0.4062	2.8005	0.0000	7,129.5717	7,129.5717	0.7471	0.0000	7,148.2487
2025	1.6741	11.3505	12.6332	0.0588	4.6959	0.1342	4.8302	1.2515	0.1252	1.3766	0.0000	5,417.2391	5,417.2391	0.4000	0.0000	5,427.2382
2026	1.5075	10.2343	11.1692	0.0557	4.0444	0.0955	4.1399	1.0892	0.0895	1.1787	0.0000	5,135.7221	5,135.7221	0.3389	0.0000	5,144.1933
2027	1.4417	10.0892	10.5807	0.0546	4.0444	0.0945	4.1389	1.0892	0.0886	1.1778	0.0000	5,043.9543	5,043.9543	0.3364	0.0000	5,052.3648
2028	1.3696	9.9286	10.0345	0.0536	4.0290	0.0928	4.1217	1.0850	0.0870	1.1720	0.0000	4,945.0654	4,945.0654	0.3325	0.0000	4,953.3779
2029	1.3067	9.8502	9.5941	0.0530	4.0445	0.0919	4.1363	1.0892	0.0862	1.1754	0.0000	4,893.4697	4,893.4697	0.3310	0.0000	4,901.7453
2030	1.2287	9.1518	9.1622	0.0528	4.0445	0.0412	4.0856	1.0892	0.0397	1.1289	0.0000	4,872.4122	4,872.4122	0.2703	0.0000	4,879.1707

2031	1.1559	9.0561	8.7371	0.0522	4.0445	0.0401	4.0845	1.0892	0.0387	1.1279	0.0000	4,819.2574	4,819.2574	0.2682	0.0000	4,825.9634
2032	1.0943	9.0055	8.3999	0.0519	4.0600	0.0392	4.0992	1.0934	0.0379	1.1313	0.0000	4,792.7296	4,792.7296	0.2672	0.0000	4,799.4099
2033	1.0274	8.8617	8.0153	0.0511	4.0290	0.0380	4.0670	1.0850	0.0368	1.1218	0.0000	4,718.0332	4,718.0332	0.2632	0.0000	4,724.6128
2034	0.9813	8.7996	7.7289	0.0508	4.0290	0.0372	4.0661	1.0850	0.0360	1.1210	0.0000	4,685.8920	4,685.8920	0.2607	0.0000	4,692.4106
2035	0.9340	8.6820	7.5163	0.0507	4.0445	0.0290	4.0735	1.0892	0.0279	1.1171	0.0000	4,676.7464	4,676.7464	0.2592	0.0000	4,683.2260
2036	0.5976	5.5551	4.8093	0.0324	2.5878	0.0186	2.6064	0.6969	0.0179	0.7148	0.0000	2,992.4009	2,992.4009	0.1658	0.0000	2,996.5469
Maximum	**19.5489**	**18.4705**	**21.3283**	**0.0781**	**7.1412**	**0.4386**	**7.5797**	**2.3943**	**0.4062**	**2.8005**	**0.0000**	**7,129.5717**	**7,129.5717**	**0.7471**	**0.0000**	**7,148.2487**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2024**	**3-31-2024**	10.8065	10.8065
2	**4-1-2024**	**6-30-2024**	10.3707	10.3707
3	**7-1-2024**	**9-30-2024**	9.5331	9.5331
4	**10-1-2024**	**12-31-2024**	7.3083	7.3083
5	**1-1-2025**	**3-31-2025**	3.9935	3.9935
6	**4-1-2025**	**6-30-2025**	3.0202	3.0202
7	**7-1-2025**	**9-30-2025**	3.0082	3.0082
8	**10-1-2025**	**12-31-2025**	3.0535	3.0535
9	**1-1-2026**	**3-31-2026**	2.9304	2.9304
10	**4-1-2026**	**6-30-2026**	2.9210	2.9210
11	**7-1-2026**	**9-30-2026**	2.9531	2.9531
12	**10-1-2026**	**12-31-2026**	2.9955	2.9955
13	**1-1-2027**	**3-31-2027**	2.8757	2.8757

14	**4-1-2027**	**6-30-2027**	2.8685	2.8685
15	**7-1-2027**	**9-30-2027**	2.9000	2.9000
16	**10-1-2027**	**12-31-2027**	2.9396	2.9396
17	**1-1-2028**	**3-31-2028**	2.8578	2.8578
18	**4-1-2028**	**6-30-2028**	2.8212	2.8212
19	**7-1-2028**	**9-30-2028**	2.8522	2.8522
20	**10-1-2028**	**12-31-2028**	2.8892	2.8892
21	**1-1-2029**	**3-31-2029**	2.7781	2.7781
22	**4-1-2029**	**6-30-2029**	2.7751	2.7751
23	**7-1-2029**	**9-30-2029**	2.8056	2.8056
24	**10-1-2029**	**12-31-2029**	2.8398	2.8398
25	**1-1-2030**	**3-31-2030**	2.5840	2.5840
26	**4-1-2030**	**6-30-2030**	2.5815	2.5815
27	**7-1-2030**	**9-30-2030**	2.6099	2.6099
28	**10-1-2030**	**12-31-2030**	2.6414	2.6414
29	**1-1-2031**	**3-31-2031**	2.5395	2.5395
30	**4-1-2031**	**6-30-2031**	2.5394	2.5394
31	**7-1-2031**	**9-30-2031**	2.5673	2.5673
32	**10-1-2031**	**12-31-2031**	2.5960	2.5960
33	**1-1-2032**	**3-31-2032**	2.5275	2.5275
34	**4-1-2032**	**6-30-2032**	2.5016	2.5016
35	**7-1-2032**	**9-30-2032**	2.5291	2.5291
36	**10-1-2032**	**12-31-2032**	2.5552	2.5552
37	**1-1-2033**	**3-31-2033**	2.4642	2.4642
38	**4-1-2033**	**6-30-2033**	2.4680	2.4680
39	**7-1-2033**	**9-30-2033**	2.4951	2.4951
40	**10-1-2033**	**12-31-2033**	2.5190	2.5190

41	**1-1-2034**	**3-31-2034**	2.4355	2.4355
42	**4-1-2034**	**6-30-2034**	2.4406	2.4406
43	**7-1-2034**	**9-30-2034**	2.4674	2.4674
44	**10-1-2034**	**12-31-2034**	2.4897	2.4897
45	**1-1-2035**	**3-31-2035**	2.3841	2.3841
46	**4-1-2035**	**6-30-2035**	2.3898	2.3898
47	**7-1-2035**	**9-30-2035**	2.4161	2.4161
48	**10-1-2035**	**12-31-2035**	2.4371	2.4371
49	**1-1-2036**	**3-31-2036**	2.4106	2.4106
50	**4-1-2036**	**6-30-2036**	2.3898	2.3898
51	**7-1-2036**	**9-30-2036**	1.3394	1.3394
		Highest	10.8065	10.8065

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2024	1/26/2024	5	20	
2	Site Preparation	Site Preparation	1/1/2024	6/26/2024	5	128	
3	Grading	Grading	1/1/2024	4/4/2025	5	330	
4	Building Construction	Building Construction	1/1/2024	8/20/2036	5	3298	
5	Paving	Paving	1/1/2024	11/21/2024	5	234	
6	Architectural Coating	Architectural Coating	1/1/2024	11/21/2024	5	234	
7	Onsite Demolition Debris Reprocessing	Demolition	1/1/2024	1/26/2024	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 825

Acres of Paving: 60.52

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 3,501,896; Non-Residential Outdoor: 1,167,299; Striped Parking

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48
Onsite Demolition Debris Reprocessing	Concrete/Industrial Saws	0	8.00	81	0.73
Onsite Demolition Debris Reprocessing	Excavators	0	8.00	158	0.38
Onsite Demolition Debris Reprocessing	Rubber Tired Dozers	0	8.00	247	0.40
Onsite Demolition Debris Reprocessing	Crushing/Proc. Equipment	1	8.00	325	0.78

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	4.00	100.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	4.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	4.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	2,088.00	815.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	418.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Onsite Demolition Debris Reprocessing	1	3.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0107	0.0000	0.0107	1.6100e-003	0.0000	1.6100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0224	0.2088	0.1971	3.9000e-004		9.6000e-003	9.6000e-003		8.9200e-003	8.9200e-003	0.0000	33.9961	33.9961	9.5100e-003	0.0000	34.2338
Total	**0.0224**	**0.2088**	**0.1971**	**3.9000e-004**	**0.0107**	**9.6000e-003**	**0.0203**	**1.6100e-003**	**8.9200e-003**	**0.0105**	**0.0000**	**33.9961**	**33.9961**	**9.5100e-003**	**0.0000**	**34.2338**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.4000e-004	7.8100e-003	1.4400e-003	4.0000e-005	8.6000e-004	1.0000e-005	8.7000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	3.5634	3.5634	1.9000e-004	0.0000	3.5683
Vendor	8.0000e-005	3.0200e-003	6.0000e-004	1.0000e-005	2.4000e-004	0.0000	2.4000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.9612	0.9612	8.0000e-005	0.0000	0.9631
Worker	6.9000e-004	4.9000e-004	4.8600e-003	2.0000e-005	1.8700e-003	1.0000e-005	1.8800e-003	5.0000e-004	1.0000e-005	5.1000e-004	0.0000	1.3657	1.3657	4.0000e-005	0.0000	1.3666
Total	**1.0100e-003**	**0.0113**	**6.9000e-003**	**7.0000e-005**	**2.9700e-003**	**2.0000e-005**	**2.9900e-003**	**8.1000e-004**	**2.0000e-005**	**8.3000e-004**	**0.0000**	**5.8903**	**5.8903**	**3.1000e-004**	**0.0000**	**5.8979**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0107	0.0000	0.0107	1.6100e-003	0.0000	1.6100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0224	0.2088	0.1971	3.9000e-004		9.6000e-003	9.6000e-003		8.9200e-003	8.9200e-003	0.0000	33.9960	33.9960	9.5100e-003	0.0000	34.2338
Total	**0.0224**	**0.2088**	**0.1971**	**3.9000e-004**	**0.0107**	**9.6000e-003**	**0.0203**	**1.6100e-003**	**8.9200e-003**	**0.0105**	**0.0000**	**33.9960**	**33.9960**	**9.5100e-003**	**0.0000**	**34.2338**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.4000e-004	7.8100e-003	1.4400e-003	4.0000e-005	8.6000e-004	1.0000e-005	8.7000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	3.5634	3.5634	1.9000e-004	0.0000	3.5683
Vendor	8.0000e-005	3.0200e-003	6.0000e-004	1.0000e-005	2.4000e-004	0.0000	2.4000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.9612	0.9612	8.0000e-005	0.0000	0.9631
Worker	6.9000e-004	4.9000e-004	4.8600e-003	2.0000e-005	1.8700e-003	1.0000e-005	1.8800e-003	5.0000e-004	1.0000e-005	5.1000e-004	0.0000	1.3657	1.3657	4.0000e-005	0.0000	1.3666
Total	**1.0100e-003**	**0.0113**	**6.9000e-003**	**7.0000e-005**	**2.9700e-003**	**2.0000e-005**	**2.9900e-003**	**8.1000e-004**	**2.0000e-005**	**8.3000e-004**	**0.0000**	**5.8903**	**5.8903**	**3.1000e-004**	**0.0000**	**5.8979**

3.3 Site Preparation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.1562	0.0000	1.1562	0.6356	0.0000	0.6356	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1703	1.7393	1.1735	2.4400e-003		0.0787	0.0787		0.0724	0.0724	0.0000	214.1252	214.1252	0.0693	0.0000	215.8565
Total	**0.1703**	**1.7393**	**1.1735**	**2.4400e-003**	**1.1562**	**0.0787**	**1.2349**	**0.6356**	**0.0724**	**0.7079**	**0.0000**	**214.1252**	**214.1252**	**0.0693**	**0.0000**	**215.8565**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.3000e-004	0.0194	3.8300e-003	6.0000e-005	1.5400e-003	2.0000e-005	1.5600e-003	4.5000e-004	2.0000e-005	4.6000e-004	0.0000	6.1514	6.1514	5.0000e-004	0.0000	6.1638
Worker	5.3100e-003	3.7800e-003	0.0373	1.2000e-004	0.0144	8.0000e-005	0.0145	3.8200e-003	8.0000e-005	3.9000e-003	0.0000	10.4885	10.4885	2.7000e-004	0.0000	10.4953
Total	**5.8400e-003**	**0.0231**	**0.0411**	**1.8000e-004**	**0.0159**	**1.0000e-004**	**0.0160**	**4.2700e-003**	**1.0000e-004**	**4.3600e-003**	**0.0000**	**16.6399**	**16.6399**	**7.7000e-004**	**0.0000**	**16.6591**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.1562	0.0000	1.1562	0.6356	0.0000	0.6356	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1703	1.7393	1.1735	2.4400e-003		0.0787	0.0787		0.0724	0.0724	0.0000	214.1250	214.1250	0.0693	0.0000	215.8563
Total	**0.1703**	**1.7393**	**1.1735**	**2.4400e-003**	**1.1562**	**0.0787**	**1.2349**	**0.6356**	**0.0724**	**0.7079**	**0.0000**	**214.1250**	**214.1250**	**0.0693**	**0.0000**	**215.8563**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.3000e-004	0.0194	3.8300e-003	6.0000e-005	1.5400e-003	2.0000e-005	1.5600e-003	4.5000e-004	2.0000e-005	4.6000e-004	0.0000	6.1514	6.1514	5.0000e-004	0.0000	6.1638
Worker	5.3100e-003	3.7800e-003	0.0373	1.2000e-004	0.0144	8.0000e-005	0.0145	3.8200e-003	8.0000e-005	3.9000e-003	0.0000	10.4885	10.4885	2.7000e-004	0.0000	10.4953
Total	**5.8400e-003**	**0.0231**	**0.0411**	**1.8000e-004**	**0.0159**	**1.0000e-004**	**0.0160**	**4.2700e-003**	**1.0000e-004**	**4.3600e-003**	**0.0000**	**16.6399**	**16.6399**	**7.7000e-004**	**0.0000**	**16.6591**

3.4 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.2264	0.0000	1.2264	0.4809	0.0000	0.4809	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4216	4.2414	3.6317	8.1300e-003		0.1749	0.1749		0.1609	0.1609	0.0000	714.2058	714.2058	0.2310	0.0000	719.9805
Total	**0.4216**	**4.2414**	**3.6317**	**8.1300e-003**	**1.2264**	**0.1749**	**1.4013**	**0.4809**	**0.1609**	**0.6418**	**0.0000**	**714.2058**	**714.2058**	**0.2310**	**0.0000**	**719.9805**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0800e-003	0.0396	7.8300e-003	1.3000e-004	3.1600e-003	4.0000e-005	3.1900e-003	9.1000e-004	4.0000e-005	9.5000e-004	0.0000	12.5911	12.5911	1.0200e-003	0.0000	12.6166
Worker	0.0121	8.5900e-003	0.0849	2.6000e-004	0.0327	1.9000e-004	0.0329	8.6900e-003	1.7000e-004	8.8700e-003	0.0000	23.8540	23.8540	6.2000e-004	0.0000	23.8695
Total	**0.0132**	**0.0482**	**0.0927**	**3.9000e-004**	**0.0359**	**2.3000e-004**	**0.0361**	**9.6000e-003**	**2.1000e-004**	**9.8200e-003**	**0.0000**	**36.4451**	**36.4451**	**1.6400e-003**	**0.0000**	**36.4861**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.2264	0.0000	1.2264	0.4809	0.0000	0.4809	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4216	4.2414	3.6317	8.1300e-003		0.1749	0.1749		0.1609	0.1609	0.0000	714.2049	714.2049	0.2310	0.0000	719.9796
Total	**0.4216**	**4.2414**	**3.6317**	**8.1300e-003**	**1.2264**	**0.1749**	**1.4013**	**0.4809**	**0.1609**	**0.6418**	**0.0000**	**714.2049**	**714.2049**	**0.2310**	**0.0000**	**719.9796**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0800e-003	0.0396	7.8300e-003	1.3000e-004	3.1600e-003	4.0000e-005	3.1900e-003	9.1000e-004	4.0000e-005	9.5000e-004	0.0000	12.5911	12.5911	1.0200e-003	0.0000	12.6166
Worker	0.0121	8.5900e-003	0.0849	2.6000e-004	0.0327	1.9000e-004	0.0329	8.6900e-003	1.7000e-004	8.8700e-003	0.0000	23.8540	23.8540	6.2000e-004	0.0000	23.8695
Total	**0.0132**	**0.0482**	**0.0927**	**3.9000e-004**	**0.0359**	**2.3000e-004**	**0.0361**	**9.6000e-003**	**2.1000e-004**	**9.8200e-003**	**0.0000**	**36.4451**	**36.4451**	**1.6400e-003**	**0.0000**	**36.4861**

3.4 Grading - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.6422	0.0000	0.6422	0.1598	0.0000	0.1598	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0986	0.9501	0.8953	2.1100e-003		0.0385	0.0385		0.0354	0.0354	0.0000	185.3211	185.3211	0.0599	0.0000	186.8195
Total	**0.0986**	**0.9501**	**0.8953**	**2.1100e-003**	**0.6422**	**0.0385**	**0.6807**	**0.1598**	**0.0354**	**0.1952**	**0.0000**	**185.3211**	**185.3211**	**0.0599**	**0.0000**	**186.8195**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7000e-004	0.0102	1.9300e-003	3.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	3.2429	3.2429	2.7000e-004	0.0000	3.2496
Worker	2.9500e-003	2.0100e-003	0.0202	7.0000e-005	8.4900e-003	5.0000e-005	8.5400e-003	2.2600e-003	4.0000e-005	2.3000e-003	0.0000	5.9494	5.9494	1.4000e-004	0.0000	5.9530
Total	**3.2200e-003**	**0.0122**	**0.0222**	**1.0000e-004**	**9.3100e-003**	**6.0000e-005**	**9.3700e-003**	**2.5000e-003**	**5.0000e-005**	**2.5500e-003**	**0.0000**	**9.1923**	**9.1923**	**4.1000e-004**	**0.0000**	**9.2026**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.6422	0.0000	0.6422	0.1598	0.0000	0.1598	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0986	0.9501	0.8953	2.1100e-003		0.0385	0.0385		0.0354	0.0354	0.0000	185.3209	185.3209	0.0599	0.0000	186.8193
Total	**0.0986**	**0.9501**	**0.8953**	**2.1100e-003**	**0.6422**	**0.0385**	**0.6807**	**0.1598**	**0.0354**	**0.1952**	**0.0000**	**185.3209**	**185.3209**	**0.0599**	**0.0000**	**186.8193**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7000e-004	0.0102	1.9300e-003	3.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	3.2429	3.2429	2.7000e-004	0.0000	3.2496
Worker	2.9500e-003	2.0100e-003	0.0202	7.0000e-005	8.4900e-003	5.0000e-005	8.5400e-003	2.2600e-003	4.0000e-005	2.3000e-003	0.0000	5.9494	5.9494	1.4000e-004	0.0000	5.9530
Total	**3.2200e-003**	**0.0122**	**0.0222**	**1.0000e-004**	**9.3100e-003**	**6.0000e-005**	**9.3700e-003**	**2.5000e-003**	**5.0000e-005**	**2.5500e-003**	**0.0000**	**9.1923**	**9.1923**	**4.1000e-004**	**0.0000**	**9.2026**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7223	303.7223	0.0718	0.0000	305.5179
Total	**0.1928**	**1.7611**	**2.1179**	**3.5300e-003**		**0.0803**	**0.0803**		**0.0756**	**0.0756**	**0.0000**	**303.7223**	**303.7223**	**0.0718**	**0.0000**	**305.5179**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2191	8.0690	1.5954	0.0270	0.6431	7.6800e-003	0.6508	0.1857	7.3400e-003	0.1931	0.0000	2,565.4321	2,565.4321	0.2078	0.0000	2,570.6274
Worker	1.2615	0.8970	8.8597	0.0275	3.4168	0.0198	3.4366	0.9076	0.0182	0.9259	0.0000	2,490.3621	2,490.3621	0.0647	0.0000	2,491.9790
Total	**1.4805**	**8.9659**	**10.4551**	**0.0546**	**4.0599**	**0.0275**	**4.0874**	**1.0934**	**0.0256**	**1.1189**	**0.0000**	**5,055.7942**	**5,055.7942**	**0.2725**	**0.0000**	**5,062.6064**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7220	303.7220	0.0718	0.0000	305.5175
Total	**0.1928**	**1.7611**	**2.1179**	**3.5300e-003**		**0.0803**	**0.0803**		**0.0756**	**0.0756**	**0.0000**	**303.7220**	**303.7220**	**0.0718**	**0.0000**	**305.5175**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2191	8.0690	1.5954	0.0270	0.6431	7.6800e-003	0.6508	0.1857	7.3400e-003	0.1931	0.0000	2,565.4321	2,565.4321	0.2078	0.0000	2,570.6274
Worker	1.2615	0.8970	8.8597	0.0275	3.4168	0.0198	3.4366	0.9076	0.0182	0.9259	0.0000	2,490.3621	2,490.3621	0.0647	0.0000	2,491.9790
Total	**1.4805**	**8.9659**	**10.4551**	**0.0546**	**4.0599**	**0.0275**	**4.0874**	**1.0934**	**0.0256**	**1.1189**	**0.0000**	**5,055.7942**	**5,055.7942**	**0.2725**	**0.0000**	**5,062.6064**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2124	7.9537	1.5120	0.0267	0.6407	7.5700e-003	0.6482	0.1850	7.2400e-003	0.1923	0.0000	2,536.0783	2,536.0783	0.2108	0.0000	2,541.3483
Worker	1.1815	0.8073	8.1047	0.0264	3.4038	0.0193	3.4231	0.9042	0.0178	0.9219	0.0000	2,383.9930	2,383.9930	0.0577	0.0000	2,385.4348
Total	**1.3938**	**8.7610**	**9.6167**	**0.0531**	**4.0444**	**0.0269**	**4.0713**	**1.0892**	**0.0250**	**1.1142**	**0.0000**	**4,920.0714**	**4,920.0714**	**0.2685**	**0.0000**	**4,926.7831**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2124	7.9537	1.5120	0.0267	0.6407	7.5700e-003	0.6482	0.1850	7.2400e-003	0.1923	0.0000	2,536.0783	2,536.0783	0.2108	0.0000	2,541.3483
Worker	1.1815	0.8073	8.1047	0.0264	3.4038	0.0193	3.4231	0.9042	0.0178	0.9219	0.0000	2,383.9930	2,383.9930	0.0577	0.0000	2,385.4348
Total	**1.3938**	**8.7610**	**9.6167**	**0.0531**	**4.0444**	**0.0269**	**4.0713**	**1.0892**	**0.0250**	**1.1142**	**0.0000**	**4,920.0714**	**4,920.0714**	**0.2685**	**0.0000**	**4,926.7831**

3.5 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2077	7.8692	1.4550	0.0266	0.6407	7.4800e-003	0.6482	0.1850	7.1500e-003	0.1922	0.0000	2,518.6728	2,518.6728	0.2143	0.0000	2,524.0310
Worker	1.1214	0.7378	7.6152	0.0256	3.4038	0.0192	3.4229	0.9042	0.0176	0.9218	0.0000	2,314.3948	2,314.3948	0.0534	0.0000	2,315.7292
Total	**1.3291**	**8.6070**	**9.0702**	**0.0521**	**4.0444**	**0.0266**	**4.0711**	**1.0892**	**0.0248**	**1.1140**	**0.0000**	**4,833.0675**	**4,833.0675**	**0.2677**	**0.0000**	**4,839.7601**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2077	7.8692	1.4550	0.0266	0.6407	7.4800e-003	0.6482	0.1850	7.1500e-003	0.1922	0.0000	2,518.6728	2,518.6728	0.2143	0.0000	2,524.0310
Worker	1.1214	0.7378	7.6152	0.0256	3.4038	0.0192	3.4229	0.9042	0.0176	0.9218	0.0000	2,314.3948	2,314.3948	0.0534	0.0000	2,315.7292
Total	**1.3291**	**8.6070**	**9.0702**	**0.0521**	**4.0444**	**0.0266**	**4.0711**	**1.0892**	**0.0248**	**1.1140**	**0.0000**	**4,833.0675**	**4,833.0675**	**0.2677**	**0.0000**	**4,839.7601**

3.5 Building Construction - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2035	7.7879	1.4017	0.0264	0.6407	7.3900e-003	0.6481	0.1850	7.0600e-003	0.1921	0.0000	2,503.7978	2,503.7978	0.2170	0.0000	2,509.2215
Worker	1.0598	0.6739	7.0799	0.0247	3.4038	0.0182	3.4220	0.9042	0.0168	0.9209	0.0000	2,237.5020	2,237.5020	0.0483	0.0000	2,238.7101
Total	**1.2632**	**8.4619**	**8.4816**	**0.0511**	**4.0444**	**0.0256**	**4.0700**	**1.0892**	**0.0238**	**1.1130**	**0.0000**	**4,741.2998**	**4,741.2998**	**0.2653**	**0.0000**	**4,747.9316**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2035	7.7879	1.4017	0.0264	0.6407	7.3900e-003	0.6481	0.1850	7.0600e-003	0.1921	0.0000	2,503.7978	2,503.7978	0.2170	0.0000	2,509.2215
Worker	1.0598	0.6739	7.0799	0.0247	3.4038	0.0182	3.4220	0.9042	0.0168	0.9209	0.0000	2,237.5020	2,237.5020	0.0483	0.0000	2,238.7101
Total	**1.2632**	**8.4619**	**8.4816**	**0.0511**	**4.0444**	**0.0256**	**4.0700**	**1.0892**	**0.0238**	**1.1130**	**0.0000**	**4,741.2998**	**4,741.2998**	**0.2653**	**0.0000**	**4,747.9316**

3.5 Building Construction - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1778	1.6211	2.0910	3.5000e-003		0.0686	0.0686		0.0645	0.0645	0.0000	301.4953	301.4953	0.0709	0.0000	303.2671
Total	**0.1778**	**1.6211**	**2.0910**	**3.5000e-003**		**0.0686**	**0.0686**		**0.0645**	**0.0645**	**0.0000**	**301.4953**	**301.4953**	**0.0709**	**0.0000**	**303.2671**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1996	7.6940	1.3585	0.0262	0.6382	7.3000e-003	0.6455	0.1843	6.9700e-003	0.1913	0.0000	2,482.5046	2,482.5046	0.2178	0.0000	2,487.9503
Worker	0.9923	0.6136	6.5850	0.0239	3.3907	0.0169	3.4076	0.9007	0.0155	0.9162	0.0000	2,161.0659	2,161.0659	0.0438	0.0000	2,162.1609
Total	**1.1919**	**8.3075**	**7.9435**	**0.0501**	**4.0290**	**0.0242**	**4.0531**	**1.0850**	**0.0225**	**1.1075**	**0.0000**	**4,643.5704**	**4,643.5704**	**0.2616**	**0.0000**	**4,650.1112**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1778	1.6211	2.0910	3.5000e-003		0.0686	0.0686		0.0645	0.0645	0.0000	301.4949	301.4949	0.0709	0.0000	303.2667
Total	**0.1778**	**1.6211**	**2.0910**	**3.5000e-003**		**0.0686**	**0.0686**		**0.0645**	**0.0645**	**0.0000**	**301.4949**	**301.4949**	**0.0709**	**0.0000**	**303.2667**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1996	7.6940	1.3585	0.0262	0.6382	7.3000e-003	0.6455	0.1843	6.9700e-003	0.1913	0.0000	2,482.5046	2,482.5046	0.2178	0.0000	2,487.9503
Worker	0.9923	0.6136	6.5850	0.0239	3.3907	0.0169	3.4076	0.9007	0.0155	0.9162	0.0000	2,161.0659	2,161.0659	0.0438	0.0000	2,162.1609
Total	**1.1919**	**8.3075**	**7.9435**	**0.0501**	**4.0290**	**0.0242**	**4.0531**	**1.0850**	**0.0225**	**1.1075**	**0.0000**	**4,643.5704**	**4,643.5704**	**0.2616**	**0.0000**	**4,650.1112**

3.5 Building Construction - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1975	7.6605	1.3293	0.0262	0.6407	7.2500e-003	0.6479	0.1850	6.9200e-003	0.1920	0.0000	2,481.7708	2,481.7708	0.2200	0.0000	2,487.2717
Worker	0.9308	0.5624	6.1658	0.0233	3.4038	0.0158	3.4195	0.9042	0.0145	0.9187	0.0000	2,109.0443	2,109.0443	0.0399	0.0000	2,110.0405
Total	**1.1283**	**8.2229**	**7.4951**	**0.0495**	**4.0445**	**0.0230**	**4.0675**	**1.0892**	**0.0214**	**1.1106**	**0.0000**	**4,590.8152**	**4,590.8152**	**0.2599**	**0.0000**	**4,597.3122**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1975	7.6605	1.3293	0.0262	0.6407	7.2500e-003	0.6479	0.1850	6.9200e-003	0.1920	0.0000	2,481.7708	2,481.7708	0.2200	0.0000	2,487.2717
Worker	0.9308	0.5624	6.1658	0.0233	3.4038	0.0158	3.4195	0.9042	0.0145	0.9187	0.0000	2,109.0443	2,109.0443	0.0399	0.0000	2,110.0405
Total	**1.1283**	**8.2229**	**7.4951**	**0.0495**	**4.0445**	**0.0230**	**4.0675**	**1.0892**	**0.0214**	**1.1106**	**0.0000**	**4,590.8152**	**4,590.8152**	**0.2599**	**0.0000**	**4,597.3122**

3.5 Building Construction - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0336	343.0336	0.0138	0.0000	343.3777
Total	**0.1708**	**1.0355**	**2.1085**	**4.0400e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**343.0336**	**343.0336**	**0.0138**	**0.0000**	**343.3777**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1952	7.6054	1.3029	0.0261	0.6407	7.1700e-003	0.6479	0.1850	6.8500e-003	0.1919	0.0000	2,473.8349	2,473.8349	0.2206	0.0000	2,479.3488
Worker	0.8627	0.5110	5.7508	0.0227	3.4038	0.0147	3.4184	0.9042	0.0135	0.9176	0.0000	2,055.5440	2,055.5440	0.0360	0.0000	2,056.4447
Total	**1.0579**	**8.1164**	**7.0537**	**0.0488**	**4.0445**	**0.0218**	**4.0663**	**1.0892**	**0.0203**	**1.1095**	**0.0000**	**4,529.3790**	**4,529.3790**	**0.2566**	**0.0000**	**4,535.7934**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0332	343.0332	0.0138	0.0000	343.3773
Total	**0.1708**	**1.0355**	**2.1085**	**4.0400e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**343.0332**	**343.0332**	**0.0138**	**0.0000**	**343.3773**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1952	7.6054	1.3029	0.0261	0.6407	7.1700e-003	0.6479	0.1850	6.8500e-003	0.1919	0.0000	2,473.8349	2,473.8349	0.2206	0.0000	2,479.3488
Worker	0.8627	0.5110	5.7508	0.0227	3.4038	0.0147	3.4184	0.9042	0.0135	0.9176	0.0000	2,055.5440	2,055.5440	0.0360	0.0000	2,056.4447
Total	**1.0579**	**8.1164**	**7.0537**	**0.0488**	**4.0445**	**0.0218**	**4.0663**	**1.0892**	**0.0203**	**1.1095**	**0.0000**	**4,529.3790**	**4,529.3790**	**0.2566**	**0.0000**	**4,535.7934**

3.5 Building Construction - 2031

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0336	343.0336	0.0138	0.0000	343.3777
Total	**0.1708**	**1.0355**	**2.1085**	**4.0400e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**343.0336**	**343.0336**	**0.0138**	**0.0000**	**343.3777**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1932	7.5590	1.2783	0.0260	0.6407	7.1100e-003	0.6478	0.1850	6.7900e-003	0.1918	0.0000	2,467.9303	2,467.9303	0.2221	0.0000	2,473.4823
Worker	0.7919	0.4617	5.3503	0.0222	3.4038	0.0136	3.4174	0.9042	0.0126	0.9167	0.0000	2,008.2940	2,008.2940	0.0324	0.0000	2,009.1039
Total	**0.9851**	**8.0207**	**6.6286**	**0.0482**	**4.0445**	**0.0208**	**4.0652**	**1.0892**	**0.0193**	**1.1085**	**0.0000**	**4,476.2242**	**4,476.2242**	**0.2545**	**0.0000**	**4,482.5862**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0332	343.0332	0.0138	0.0000	343.3773
Total	**0.1708**	**1.0355**	**2.1085**	**4.0400e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**343.0332**	**343.0332**	**0.0138**	**0.0000**	**343.3773**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1932	7.5590	1.2783	0.0260	0.6407	7.1100e-003	0.6478	0.1850	6.7900e-003	0.1918	0.0000	2,467.9303	2,467.9303	0.2221	0.0000	2,473.4823
Worker	0.7919	0.4617	5.3503	0.0222	3.4038	0.0136	3.4174	0.9042	0.0126	0.9167	0.0000	2,008.2940	2,008.2940	0.0324	0.0000	2,009.1039
Total	**0.9851**	**8.0207**	**6.6286**	**0.0482**	**4.0445**	**0.0208**	**4.0652**	**1.0892**	**0.0193**	**1.1085**	**0.0000**	**4,476.2242**	**4,476.2242**	**0.2545**	**0.0000**	**4,482.5862**

3.5 Building Construction - 2032

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1715	1.0394	2.1166	4.0600e-003		0.0194	0.0194		0.0194	0.0194	0.0000	344.3479	344.3479	0.0138	0.0000	344.6933
Total	**0.1715**	**1.0394**	**2.1166**	**4.0600e-003**		**0.0194**	**0.0194**		**0.0194**	**0.0194**	**0.0000**	**344.3479**	**344.3479**	**0.0138**	**0.0000**	**344.6933**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1926	7.5460	1.2679	0.0261	0.6432	7.0600e-003	0.6502	0.1858	6.7400e-003	0.1925	0.0000	2,474.0333	2,474.0333	0.2241	0.0000	2,479.6349
Worker	0.7302	0.4201	5.0154	0.0218	3.4168	0.0128	3.4296	0.9076	0.0117	0.9194	0.0000	1,974.3488	1,974.3488	0.0293	0.0000	1,975.0821
Total	**0.9228**	**7.9661**	**6.2833**	**0.0479**	**4.0600**	**0.0198**	**4.0798**	**1.0934**	**0.0185**	**1.1119**	**0.0000**	**4,448.3821**	**4,448.3821**	**0.2534**	**0.0000**	**4,454.7170**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1715	1.0394	2.1166	4.0600e-003		0.0194	0.0194		0.0194	0.0194	0.0000	344.3475	344.3475	0.0138	0.0000	344.6929
Total	**0.1715**	**1.0394**	**2.1166**	**4.0600e-003**		**0.0194**	**0.0194**		**0.0194**	**0.0194**	**0.0000**	**344.3475**	**344.3475**	**0.0138**	**0.0000**	**344.6929**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1926	7.5460	1.2679	0.0261	0.6432	7.0600e-003	0.6502	0.1858	6.7400e-003	0.1925	0.0000	2,474.0333	2,474.0333	0.2241	0.0000	2,479.6349
Worker	0.7302	0.4201	5.0154	0.0218	3.4168	0.0128	3.4296	0.9076	0.0117	0.9194	0.0000	1,974.3488	1,974.3488	0.0293	0.0000	1,975.0821
Total	**0.9228**	**7.9661**	**6.2833**	**0.0479**	**4.0600**	**0.0198**	**4.0798**	**1.0934**	**0.0185**	**1.1119**	**0.0000**	**4,448.3821**	**4,448.3821**	**0.2534**	**0.0000**	**4,454.7170**

3.5 Building Construction - 2033

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7193	341.7193	0.0137	0.0000	342.0621
Total	**0.1702**	**1.0315**	**2.1004**	**4.0200e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**341.7193**	**341.7193**	**0.0137**	**0.0000**	**342.0621**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1903	7.4508	1.2470	0.0259	0.6383	6.9500e-003	0.6452	0.1843	6.6400e-003	0.1910	0.0000	2,453.1390	2,453.1390	0.2231	0.0000	2,458.7175
Worker	0.6669	0.3794	4.6679	0.0212	3.3907	0.0118	3.4025	0.9007	0.0109	0.9116	0.0000	1,923.1753	1,923.1753	0.0263	0.0000	1,923.8337
Total	**0.8572**	**7.8302**	**5.9149**	**0.0471**	**4.0290**	**0.0188**	**4.0477**	**1.0850**	**0.0175**	**1.1025**	**0.0000**	**4,376.3143**	**4,376.3143**	**0.2495**	**0.0000**	**4,382.5512**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7189	341.7189	0.0137	0.0000	342.0617
Total	**0.1702**	**1.0315**	**2.1004**	**4.0200e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**341.7189**	**341.7189**	**0.0137**	**0.0000**	**342.0617**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1903	7.4508	1.2470	0.0259	0.6383	6.9500e-003	0.6452	0.1843	6.6400e-003	0.1910	0.0000	2,453.1390	2,453.1390	0.2231	0.0000	2,458.7175
Worker	0.6669	0.3794	4.6679	0.0212	3.3907	0.0118	3.4025	0.9007	0.0109	0.9116	0.0000	1,923.1753	1,923.1753	0.0263	0.0000	1,923.8337
Total	**0.8572**	**7.8302**	**5.9149**	**0.0471**	**4.0290**	**0.0188**	**4.0477**	**1.0850**	**0.0175**	**1.1025**	**0.0000**	**4,376.3143**	**4,376.3143**	**0.2495**	**0.0000**	**4,382.5512**

3.5 Building Construction - 2034

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7193	341.7193	0.0137	0.0000	342.0621
Total	**0.1702**	**1.0315**	**2.1004**	**4.0200e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**341.7193**	**341.7193**	**0.0137**	**0.0000**	**342.0621**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1896	7.4177	1.2374	0.0259	0.6383	6.8900e-003	0.6451	0.1843	6.5800e-003	0.1909	0.0000	2,452.2859	2,452.2859	0.2231	0.0000	2,457.8644
Worker	0.6215	0.3503	4.3911	0.0209	3.3907	0.0110	3.4017	0.9007	0.0101	0.9108	0.0000	1,891.8871	1,891.8871	0.0239	0.0000	1,892.4845
Total	**0.8111**	**7.7681**	**5.6285**	**0.0467**	**4.0290**	**0.0179**	**4.0469**	**1.0850**	**0.0167**	**1.1018**	**0.0000**	**4,344.1731**	**4,344.1731**	**0.2470**	**0.0000**	**4,350.3489**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7189	341.7189	0.0137	0.0000	342.0617
Total	**0.1702**	**1.0315**	**2.1004**	**4.0200e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**341.7189**	**341.7189**	**0.0137**	**0.0000**	**342.0617**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1896	7.4177	1.2374	0.0259	0.6383	6.8900e-003	0.6451	0.1843	6.5800e-003	0.1909	0.0000	2,452.2859	2,452.2859	0.2231	0.0000	2,457.8644
Worker	0.6215	0.3503	4.3911	0.0209	3.3907	0.0110	3.4017	0.9007	0.0101	0.9108	0.0000	1,891.8871	1,891.8871	0.0239	0.0000	1,892.4845
Total	**0.8111**	**7.7681**	**5.6285**	**0.0467**	**4.0290**	**0.0179**	**4.0469**	**1.0850**	**0.0167**	**1.1018**	**0.0000**	**4,344.1731**	**4,344.1731**	**0.2470**	**0.0000**	**4,350.3489**

3.5 Building Construction - 2035

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1588	0.9346	2.1034	4.0400e-003		0.0118	0.0118		0.0118	0.0118	0.0000	343.0336	343.0336	0.0128	0.0000	343.3530
Total	**0.1588**	**0.9346**	**2.1034**	**4.0400e-003**		**0.0118**	**0.0118**		**0.0118**	**0.0118**	**0.0000**	**343.0336**	**343.0336**	**0.0128**	**0.0000**	**343.3530**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1898	7.4175	1.2344	0.0260	0.6407	6.8700e-003	0.6476	0.1851	6.5600e-003	0.1916	0.0000	2,461.4037	2,461.4037	0.2244	0.0000	2,467.0144
Worker	0.5854	0.3300	4.1786	0.0207	3.4038	0.0104	3.4141	0.9042	9.5300e-003	0.9137	0.0000	1,872.3095	1,872.3095	0.0220	0.0000	1,872.8590
Total	**0.7752**	**7.7474**	**5.4130**	**0.0466**	**4.0445**	**0.0172**	**4.0617**	**1.0892**	**0.0161**	**1.1053**	**0.0000**	**4,333.7132**	**4,333.7132**	**0.2464**	**0.0000**	**4,339.8734**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1588	0.9346	2.1034	4.0400e-003		0.0118	0.0118		0.0118	0.0118	0.0000	343.0332	343.0332	0.0128	0.0000	343.3526
Total	**0.1588**	**0.9346**	**2.1034**	**4.0400e-003**		**0.0118**	**0.0118**		**0.0118**	**0.0118**	**0.0000**	**343.0332**	**343.0332**	**0.0128**	**0.0000**	**343.3526**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1898	7.4175	1.2344	0.0260	0.6407	6.8700e-003	0.6476	0.1851	6.5600e-003	0.1916	0.0000	2,461.4037	2,461.4037	0.2244	0.0000	2,467.0144
Worker	0.5854	0.3300	4.1786	0.0207	3.4038	0.0104	3.4141	0.9042	9.5300e-003	0.9137	0.0000	1,872.3095	1,872.3095	0.0220	0.0000	1,872.8590
Total	**0.7752**	**7.7474**	**5.4130**	**0.0466**	**4.0445**	**0.0172**	**4.0617**	**1.0892**	**0.0161**	**1.1053**	**0.0000**	**4,333.7132**	**4,333.7132**	**0.2464**	**0.0000**	**4,339.8734**

3.5 Building Construction - 2036

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1016	0.5980	1.3458	2.5800e-003		7.5500e-003	7.5500e-003		7.5500e-003	7.5500e-003	0.0000	219.4890	219.4890	8.1700e-003	0.0000	219.6933
Total	**0.1016**	**0.5980**	**1.3458**	**2.5800e-003**		**7.5500e-003**	**7.5500e-003**		**7.5500e-003**	**7.5500e-003**	**0.0000**	**219.4890**	**219.4890**	**8.1700e-003**	**0.0000**	**219.6933**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1214	4.7461	0.7898	0.0166	0.4100	4.4000e-003	0.4144	0.1184	4.2000e-003	0.1226	0.0000	1,574.9211	1,574.9211	0.1436	0.0000	1,578.5111
Worker	0.3746	0.2111	2.6737	0.0132	2.1779	6.6300e-003	2.1845	0.5785	6.1000e-003	0.5846	0.0000	1,197.9911	1,197.9911	0.0141	0.0000	1,198.3428
Total	**0.4960**	**4.9572**	**3.4635**	**0.0298**	**2.5878**	**0.0110**	**2.5989**	**0.6969**	**0.0103**	**0.7072**	**0.0000**	**2,772.9123**	**2,772.9123**	**0.1577**	**0.0000**	**2,776.8539**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1016	0.5980	1.3458	2.5800e-003		7.5500e-003	7.5500e-003		7.5500e-003	7.5500e-003	0.0000	219.4887	219.4887	8.1700e-003	0.0000	219.6931
Total	**0.1016**	**0.5980**	**1.3458**	**2.5800e-003**		**7.5500e-003**	**7.5500e-003**		**7.5500e-003**	**7.5500e-003**	**0.0000**	**219.4887**	**219.4887**	**8.1700e-003**	**0.0000**	**219.6931**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1214	4.7461	0.7898	0.0166	0.4100	4.4000e-003	0.4144	0.1184	4.2000e-003	0.1226	0.0000	1,574.9211	1,574.9211	0.1436	0.0000	1,578.5111
Worker	0.3746	0.2111	2.6737	0.0132	2.1779	6.6300e-003	2.1845	0.5785	6.1000e-003	0.5846	0.0000	1,197.9911	1,197.9911	0.0141	0.0000	1,198.3428
Total	**0.4960**	**4.9572**	**3.4635**	**0.0298**	**2.5878**	**0.0110**	**2.5989**	**0.6969**	**0.0103**	**0.7072**	**0.0000**	**2,772.9123**	**2,772.9123**	**0.1577**	**0.0000**	**2,776.8539**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1156	1.1144	1.7112	2.6700e-003		0.0548	0.0548		0.0504	0.0504	0.0000	234.3104	234.3104	0.0758	0.0000	236.2049
Paving	0.0793					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1949**	**1.1144**	**1.7112**	**2.6700e-003**		**0.0548**	**0.0548**		**0.0504**	**0.0504**	**0.0000**	**234.3104**	**234.3104**	**0.0758**	**0.0000**	**236.2049**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0900e-003	5.7600e-003	0.0569	1.8000e-004	0.0219	1.3000e-004	0.0221	5.8200e-003	1.2000e-004	5.9400e-003	0.0000	15.9786	15.9786	4.1000e-004	0.0000	15.9889
Total	**8.0900e-003**	**5.7600e-003**	**0.0569**	**1.8000e-004**	**0.0219**	**1.3000e-004**	**0.0221**	**5.8200e-003**	**1.2000e-004**	**5.9400e-003**	**0.0000**	**15.9786**	**15.9786**	**4.1000e-004**	**0.0000**	**15.9889**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1156	1.1144	1.7112	2.6700e-003		0.0548	0.0548		0.0504	0.0504	0.0000	234.3101	234.3101	0.0758	0.0000	236.2047
Paving	0.0793					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1949**	**1.1144**	**1.7112**	**2.6700e-003**		**0.0548**	**0.0548**		**0.0504**	**0.0504**	**0.0000**	**234.3101**	**234.3101**	**0.0758**	**0.0000**	**236.2047**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0900e-003	5.7600e-003	0.0569	1.8000e-004	0.0219	1.3000e-004	0.0221	5.8200e-003	1.2000e-004	5.9400e-003	0.0000	15.9786	15.9786	4.1000e-004	0.0000	15.9889
Total	**8.0900e-003**	**5.7600e-003**	**0.0569**	**1.8000e-004**	**0.0219**	**1.3000e-004**	**0.0221**	**5.8200e-003**	**1.2000e-004**	**5.9400e-003**	**0.0000**	**15.9786**	**15.9786**	**4.1000e-004**	**0.0000**	**15.9889**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	16.7811					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0212	0.1426	0.2118	3.5000e-004		7.1300e-003	7.1300e-003		7.1300e-003	7.1300e-003	0.0000	29.8731	29.8731	1.6800e-003	0.0000	29.9151
Total	**16.8023**	**0.1426**	**0.2118**	**3.5000e-004**		**7.1300e-003**	**7.1300e-003**		**7.1300e-003**	**7.1300e-003**	**0.0000**	**29.8731**	**29.8731**	**1.6800e-003**	**0.0000**	**29.9151**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2255	0.1604	1.5841	4.9200e-003	0.6109	3.5400e-003	0.6145	0.1623	3.2600e-003	0.1655	0.0000	445.2694	445.2694	0.0116	0.0000	445.5585
Total	**0.2255**	**0.1604**	**1.5841**	**4.9200e-003**	**0.6109**	**3.5400e-003**	**0.6145**	**0.1623**	**3.2600e-003**	**0.1655**	**0.0000**	**445.2694**	**445.2694**	**0.0116**	**0.0000**	**445.5585**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	16.7811					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0212	0.1426	0.2118	3.5000e-004		7.1300e-003	7.1300e-003		7.1300e-003	7.1300e-003	0.0000	29.8730	29.8730	1.6800e-003	0.0000	29.9151
Total	**16.8023**	**0.1426**	**0.2118**	**3.5000e-004**		**7.1300e-003**	**7.1300e-003**		**7.1300e-003**	**7.1300e-003**	**0.0000**	**29.8730**	**29.8730**	**1.6800e-003**	**0.0000**	**29.9151**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2255	0.1604	1.5841	4.9200e-003	0.6109	3.5400e-003	0.6145	0.1623	3.2600e-003	0.1655	0.0000	445.2694	445.2694	0.0116	0.0000	445.5585
Total	**0.2255**	**0.1604**	**1.5841**	**4.9200e-003**	**0.6109**	**3.5400e-003**	**0.6145**	**0.1623**	**3.2600e-003**	**0.1655**	**0.0000**	**445.2694**	**445.2694**	**0.0116**	**0.0000**	**445.5585**

3.8 Onsite Demolition Debris Reprocessing - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0104	0.0482	0.0475	2.2000e-004		1.5600e-003	1.5600e-003		1.5600e-003	1.5600e-003	0.0000	23.0502	23.0502	8.5000e-004	0.0000	23.0715
Total	**0.0104**	**0.0482**	**0.0475**	**2.2000e-004**		**1.5600e-003**	**1.5600e-003**		**1.5600e-003**	**1.5600e-003**	**0.0000**	**23.0502**	**23.0502**	**8.5000e-004**	**0.0000**	**23.0715**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	1.0000e-004	9.7000e-004	0.0000	3.7000e-004	0.0000	3.8000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2731	0.2731	1.0000e-005	0.0000	0.2733
Total	**1.4000e-004**	**1.0000e-004**	**9.7000e-004**	**0.0000**	**3.7000e-004**	**0.0000**	**3.8000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.2731**	**0.2731**	**1.0000e-005**	**0.0000**	**0.2733**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0104	0.0482	0.0475	2.2000e-004		1.5600e-003	1.5600e-003		1.5600e-003	1.5600e-003	0.0000	23.0502	23.0502	8.5000e-004	0.0000	23.0715
Total	**0.0104**	**0.0482**	**0.0475**	**2.2000e-004**		**1.5600e-003**	**1.5600e-003**		**1.5600e-003**	**1.5600e-003**	**0.0000**	**23.0502**	**23.0502**	**8.5000e-004**	**0.0000**	**23.0715**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	1.0000e-004	9.7000e-004	0.0000	3.7000e-004	0.0000	3.8000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2731	0.2731	1.0000e-005	0.0000	0.2733
Total	**1.4000e-004**	**1.0000e-004**	**9.7000e-004**	**0.0000**	**3.7000e-004**	**0.0000**	**3.8000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.2731**	**0.2731**	**1.0000e-005**	**0.0000**	**0.2733**

CalEEMod Output: Phase 2 Roadway Construction

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Construction Phase 2 Roadway - Kings County, Annual

Construction Phase 2 Roadway

Kings County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	12.65	Acre	12.65	551,034.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	37
Climate Zone	3			**Operational Year**	2024
Utility Company					
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - See assumptions file.

Off-road Equipment - See assumptions file.

Off-road Equipment - See assumptions file.

Off-road Equipment - See assumptions file.

Grading -

Trips and VMT - See assumptions file.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	30.00	33.00
tblConstructionPhase	NumDays	20.00	112.00
tblConstructionPhase	NumDays	20.00	107.00
tblConstructionPhase	PhaseEndDate	3/22/2024	2/14/2024
tblConstructionPhase	PhaseEndDate	6/13/2025	7/19/2024
tblConstructionPhase	PhaseStartDate	2/10/2024	1/1/2024
tblConstructionPhase	PhaseStartDate	5/17/2025	2/15/2024
tblGrading	AcresOfGrading	0.00	82.50
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	WorkerTripNumber	8.00	15.00
tblTripsAndVMT	WorkerTripNumber	8.00	20.00
tblTripsAndVMT	WorkerTripNumber	8.00	15.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.1026	0.6717	0.8948	1.6800e-003	0.0750	0.0296	0.1046	0.0132	0.0272	0.0404	0.0000	150.4442	150.4442	0.0369	0.0000	151.3676
Maximum	**0.1026**	**0.6717**	**0.8948**	**1.6800e-003**	**0.0750**	**0.0296**	**0.1046**	**0.0132**	**0.0272**	**0.0404**	**0.0000**	**150.4442**	**150.4442**	**0.0369**	**0.0000**	**151.3676**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.1026	0.6717	0.8948	1.6800e-003	0.0750	0.0296	0.1046	0.0132	0.0272	0.0404	0.0000	150.4440	150.4440	0.0369	0.0000	151.3675
Maximum	**0.1026**	**0.6717**	**0.8948**	**1.6800e-003**	**0.0750**	**0.0296**	**0.1046**	**0.0132**	**0.0272**	**0.0404**	**0.0000**	**150.4440**	**150.4440**	**0.0369**	**0.0000**	**151.3675**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2024**	**3-31-2024**	0.1814	0.1814
2	**4-1-2024**	**6-30-2024**	0.2011	0.2011
3	**7-1-2024**	**9-30-2024**	0.2060	0.2060
		Highest	0.2060	0.2060

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2024	2/14/2024	5	33	
2	Road Paving (Aggregate Base)	Paving	2/15/2024	7/19/2024	5	112	
3	Road Pavement (Topcoat)	Paving	7/22/2024	12/17/2024	5	107	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 82.5

Acres of Paving: 12.65

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Road Pavement (Topcoat)	Pavers	1	8.00	130	0.42
Road Pavement (Topcoat)	Paving Equipment	0	8.00	132	0.36
Road Pavement (Topcoat)	Rollers	2	8.00	80	0.38
Grading	Excavators	0	8.00	158	0.38
Road Paving (Aggregate Base)	Pavers	0	8.00	130	0.42
Road Paving (Aggregate Base)	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Graders	0	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Road Paving (Aggregate Base)	Paving Equipment	1	8.00	132	0.36
Grading	Scrapers	0	8.00	367	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Road Pavement (Topcoat)	3	15.00	10.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	20.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Road Paving (Aggregate Base)	3	15.00	10.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0438	0.0000	0.0438	4.7200e-003	0.0000	4.7200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.1200e-003	0.0717	0.1107	1.5000e-004		3.2900e-003	3.2900e-003		3.0300e-003	3.0300e-003	0.0000	13.5510	13.5510	4.3800e-003	0.0000	13.6606
Total	**7.1200e-003**	**0.0717**	**0.1107**	**1.5000e-004**	**0.0438**	**3.2900e-003**	**0.0470**	**4.7200e-003**	**3.0300e-003**	**7.7500e-003**	**0.0000**	**13.5510**	**13.5510**	**4.3800e-003**	**0.0000**	**13.6606**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5200e-003	1.0800e-003	0.0107	3.0000e-005	4.1200e-003	2.0000e-005	4.1500e-003	1.1000e-003	2.0000e-005	1.1200e-003	0.0000	3.0045	3.0045	8.0000e-005	0.0000	3.0065
Total	**1.5200e-003**	**1.0800e-003**	**0.0107**	**3.0000e-005**	**4.1200e-003**	**2.0000e-005**	**4.1500e-003**	**1.1000e-003**	**2.0000e-005**	**1.1200e-003**	**0.0000**	**3.0045**	**3.0045**	**8.0000e-005**	**0.0000**	**3.0065**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0438	0.0000	0.0438	4.7200e-003	0.0000	4.7200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.1200e-003	0.0717	0.1107	1.5000e-004		3.2900e-003	3.2900e-003		3.0300e-003	3.0300e-003	0.0000	13.5510	13.5510	4.3800e-003	0.0000	13.6606
Total	**7.1200e-003**	**0.0717**	**0.1107**	**1.5000e-004**	**0.0438**	**3.2900e-003**	**0.0470**	**4.7200e-003**	**3.0300e-003**	**7.7500e-003**	**0.0000**	**13.5510**	**13.5510**	**4.3800e-003**	**0.0000**	**13.6606**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5200e-003	1.0800e-003	0.0107	3.0000e-005	4.1200e-003	2.0000e-005	4.1500e-003	1.1000e-003	2.0000e-005	1.1200e-003	0.0000	3.0045	3.0045	8.0000e-005	0.0000	3.0065
Total	**1.5200e-003**	**1.0800e-003**	**0.0107**	**3.0000e-005**	**4.1200e-003**	**2.0000e-005**	**4.1500e-003**	**1.1000e-003**	**2.0000e-005**	**1.1200e-003**	**0.0000**	**3.0045**	**3.0045**	**8.0000e-005**	**0.0000**	**3.0065**

3.3 Road Paving (Aggregate Base) - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0256	0.2545	0.3511	5.2000e-004		0.0131	0.0131		0.0120	0.0120	0.0000	45.8622	45.8622	0.0148	0.0000	46.2330
Paving	0.0166					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0421**	**0.2545**	**0.3511**	**5.2000e-004**		**0.0131**	**0.0131**		**0.0120**	**0.0120**	**0.0000**	**45.8622**	**45.8622**	**0.0148**	**0.0000**	**46.2330**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1500e-003	0.0423	8.3700e-003	1.4000e-004	3.3700e-003	4.0000e-005	3.4100e-003	9.7000e-004	4.0000e-005	1.0100e-003	0.0000	13.4561	13.4561	1.0900e-003	0.0000	13.4834
Worker	3.8700e-003	2.7500e-003	0.0272	8.0000e-005	0.0105	6.0000e-005	0.0106	2.7900e-003	6.0000e-005	2.8400e-003	0.0000	7.6479	7.6479	2.0000e-004	0.0000	7.6528
Total	**5.0200e-003**	**0.0451**	**0.0356**	**2.2000e-004**	**0.0139**	**1.0000e-004**	**0.0140**	**3.7600e-003**	**1.0000e-004**	**3.8500e-003**	**0.0000**	**21.1040**	**21.1040**	**1.2900e-003**	**0.0000**	**21.1362**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0256	0.2545	0.3511	5.2000e-004		0.0131	0.0131		0.0120	0.0120	0.0000	45.8621	45.8621	0.0148	0.0000	46.2329
Paving	0.0166					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0421**	**0.2545**	**0.3511**	**5.2000e-004**		**0.0131**	**0.0131**		**0.0120**	**0.0120**	**0.0000**	**45.8621**	**45.8621**	**0.0148**	**0.0000**	**46.2329**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1500e-003	0.0423	8.3700e-003	1.4000e-004	3.3700e-003	4.0000e-005	3.4100e-003	9.7000e-004	4.0000e-005	1.0100e-003	0.0000	13.4561	13.4561	1.0900e-003	0.0000	13.4834
Worker	3.8700e-003	2.7500e-003	0.0272	8.0000e-005	0.0105	6.0000e-005	0.0106	2.7900e-003	6.0000e-005	2.8400e-003	0.0000	7.6479	7.6479	2.0000e-004	0.0000	7.6528
Total	**5.0200e-003**	**0.0451**	**0.0356**	**2.2000e-004**	**0.0139**	**1.0000e-004**	**0.0140**	**3.7600e-003**	**1.0000e-004**	**3.8500e-003**	**0.0000**	**21.1040**	**21.1040**	**1.2900e-003**	**0.0000**	**21.1362**

3.4 Road Pavement (Topcoat) - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0254	0.2563	0.3527	5.3000e-004		0.0130	0.0130		0.0119	0.0119	0.0000	46.7606	46.7606	0.0151	0.0000	47.1387
Paving	0.0166					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0420**	**0.2563**	**0.3527**	**5.3000e-004**		**0.0130**	**0.0130**		**0.0119**	**0.0119**	**0.0000**	**46.7606**	**46.7606**	**0.0151**	**0.0000**	**47.1387**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1000e-003	0.0404	7.9900e-003	1.4000e-004	3.2200e-003	4.0000e-005	3.2600e-003	9.3000e-004	4.0000e-005	9.7000e-004	0.0000	12.8554	12.8554	1.0400e-003	0.0000	12.8814
Worker	3.7000e-003	2.6300e-003	0.0260	8.0000e-005	0.0100	6.0000e-005	0.0101	2.6600e-003	5.0000e-005	2.7200e-003	0.0000	7.3064	7.3064	1.9000e-004	0.0000	7.3112
Total	**4.8000e-003**	**0.0431**	**0.0340**	**2.2000e-004**	**0.0132**	**1.0000e-004**	**0.0133**	**3.5900e-003**	**9.0000e-005**	**3.6900e-003**	**0.0000**	**20.1618**	**20.1618**	**1.2300e-003**	**0.0000**	**20.1926**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0254	0.2563	0.3527	5.3000e-004		0.0130	0.0130		0.0119	0.0119	0.0000	46.7606	46.7606	0.0151	0.0000	47.1387
Paving	0.0166					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0420**	**0.2563**	**0.3527**	**5.3000e-004**		**0.0130**	**0.0130**		**0.0119**	**0.0119**	**0.0000**	**46.7606**	**46.7606**	**0.0151**	**0.0000**	**47.1387**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1000e-003	0.0404	7.9900e-003	1.4000e-004	3.2200e-003	4.0000e-005	3.2600e-003	9.3000e-004	4.0000e-005	9.7000e-004	0.0000	12.8554	12.8554	1.0400e-003	0.0000	12.8814
Worker	3.7000e-003	2.6300e-003	0.0260	8.0000e-005	0.0100	6.0000e-005	0.0101	2.6600e-003	5.0000e-005	2.7200e-003	0.0000	7.3064	7.3064	1.9000e-004	0.0000	7.3112
Total	**4.8000e-003**	**0.0431**	**0.0340**	**2.2000e-004**	**0.0132**	**1.0000e-004**	**0.0133**	**3.5900e-003**	**9.0000e-005**	**3.6900e-003**	**0.0000**	**20.1618**	**20.1618**	**1.2300e-003**	**0.0000**	**20.1926**

CalEEMod Output: Phase 2 Roadway Construction – Mitigated

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Construction Phase 2 Roadway_Mitigated

Kings County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	12.65	Acre	12.65	551,034.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	37
Climate Zone	3			**Operational Year**	2024
Utility Company					
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - See assumptions file.

Off-road Equipment - See assumptions file.

Off-road Equipment - See assumptions file.

Off-road Equipment - See assumptions file.

Trips and VMT - See assumptions file.

Grading -

Construction Off-road Equipment Mitigation - Mitigation requiring Tier 4 equipment.

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	30.00	33.00
tblConstructionPhase	NumDays	20.00	112.00
tblConstructionPhase	NumDays	20.00	107.00
tblGrading	AcresOfGrading	0.00	82.50
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00

tblTripsAndVMT	WorkerTripNumber	8.00	20.00
tblTripsAndVMT	WorkerTripNumber	8.00	15.00
tblTripsAndVMT	WorkerTripNumber	8.00	15.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.1026	0.6717	0.8948	1.6800e-003	0.0750	0.0296	0.1046	0.0132	0.0272	0.0404	0.0000	150.4442	150.4442	0.0369	0.0000	151.3676
Maximum	**0.1026**	**0.6717**	**0.8948**	**1.6800e-003**	**0.0750**	**0.0296**	**0.1046**	**0.0132**	**0.0272**	**0.0404**	**0.0000**	**150.4442**	**150.4442**	**0.0369**	**0.0000**	**151.3676**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.0704	0.6239	0.9897	1.6800e-003	0.0750	5.2400e-003	0.0802	0.0132	4.9600e-003	0.0181	0.0000	150.4440	150.4440	0.0369	0.0000	151.3675
Maximum	**0.0704**	**0.6239**	**0.9897**	**1.6800e-003**	**0.0750**	**5.2400e-003**	**0.0802**	**0.0132**	**4.9600e-003**	**0.0181**	**0.0000**	**150.4440**	**150.4440**	**0.0369**	**0.0000**	**151.3675**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**31.33**	**7.12**	**-10.61**	**0.00**	**0.00**	**82.29**	**23.28**	**0.00**	**81.77**	**55.11**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2024**	**3-31-2024**	0.1814	0.1693
2	**4-1-2024**	**6-30-2024**	0.2011	0.1772
3	**7-1-2024**	**9-30-2024**	0.2060	0.1826
		Highest	0.2060	0.1826

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2024	2/14/2024	5	33	
2	Road Paving (Aggregate Base)	Paving	2/15/2024	7/19/2024	5	112	
3	Road Pavement (Topcoat)	Paving	7/22/2024	12/17/2024	5	107	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 82.5

Acres of Paving: 12.65

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	0	8.00	158	0.38
Grading	Graders	0	8.00	187	0.41
Grading	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Scrapers	0	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Road Paving (Aggregate Base)	Pavers	0	8.00	130	0.42
Road Paving (Aggregate Base)	Paving Equipment	1	8.00	132	0.36
Road Paving (Aggregate Base)	Rollers	2	8.00	80	0.38
Road Pavement (Topcoat)	Pavers	1	8.00	130	0.42
Road Pavement (Topcoat)	Paving Equipment	0	8.00	132	0.36
Road Pavement (Topcoat)	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	3	20.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Road Paving (Aggregate Base)	3	15.00	10.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Road Pavement (Topcoat)	3	15.00	10.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

3.2 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0438	0.0000	0.0438	4.7200e-003	0.0000	4.7200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.1200e-003	0.0717	0.1107	1.5000e-004		3.2900e-003	3.2900e-003		3.0300e-003	3.0300e-003	0.0000	13.5510	13.5510	4.3800e-003	0.0000	13.6606
Total	**7.1200e-003**	**0.0717**	**0.1107**	**1.5000e-004**	**0.0438**	**3.2900e-003**	**0.0470**	**4.7200e-003**	**3.0300e-003**	**7.7500e-003**	**0.0000**	**13.5510**	**13.5510**	**4.3800e-003**	**0.0000**	**13.6606**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5200e-003	1.0800e-003	0.0107	3.0000e-005	4.1200e-003	2.0000e-005	4.1500e-003	1.1000e-003	2.0000e-005	1.1200e-003	0.0000	3.0045	3.0045	8.0000e-005	0.0000	3.0065
Total	**1.5200e-003**	**1.0800e-003**	**0.0107**	**3.0000e-005**	**4.1200e-003**	**2.0000e-005**	**4.1500e-003**	**1.1000e-003**	**2.0000e-005**	**1.1200e-003**	**0.0000**	**3.0045**	**3.0045**	**8.0000e-005**	**0.0000**	**3.0065**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0438	0.0000	0.0438	4.7200e-003	0.0000	4.7200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.1200e-003	0.0717	0.1107	1.5000e-004		3.2900e-003	3.2900e-003		3.0300e-003	3.0300e-003	0.0000	13.5510	13.5510	4.3800e-003	0.0000	13.6606
Total	**7.1200e-003**	**0.0717**	**0.1107**	**1.5000e-004**	**0.0438**	**3.2900e-003**	**0.0470**	**4.7200e-003**	**3.0300e-003**	**7.7500e-003**	**0.0000**	**13.5510**	**13.5510**	**4.3800e-003**	**0.0000**	**13.6606**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5200e-003	1.0800e-003	0.0107	3.0000e-005	4.1200e-003	2.0000e-005	4.1500e-003	1.1000e-003	2.0000e-005	1.1200e-003	0.0000	3.0045	3.0045	8.0000e-005	0.0000	3.0065
Total	**1.5200e-003**	**1.0800e-003**	**0.0107**	**3.0000e-005**	**4.1200e-003**	**2.0000e-005**	**4.1500e-003**	**1.1000e-003**	**2.0000e-005**	**1.1200e-003**	**0.0000**	**3.0045**	**3.0045**	**8.0000e-005**	**0.0000**	**3.0065**

3.3 Road Paving (Aggregate Base) - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0256	0.2545	0.3511	5.2000e-004		0.0131	0.0131		0.0120	0.0120	0.0000	45.8622	45.8622	0.0148	0.0000	46.2330
Paving	0.0166					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0421**	**0.2545**	**0.3511**	**5.2000e-004**		**0.0131**	**0.0131**		**0.0120**	**0.0120**	**0.0000**	**45.8622**	**45.8622**	**0.0148**	**0.0000**	**46.2330**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1500e-003	0.0423	8.3700e-003	1.4000e-004	3.3700e-003	4.0000e-005	3.4100e-003	9.7000e-004	4.0000e-005	1.0100e-003	0.0000	13.4561	13.4561	1.0900e-003	0.0000	13.4834
Worker	3.8700e-003	2.7500e-003	0.0272	8.0000e-005	0.0105	6.0000e-005	0.0106	2.7900e-003	6.0000e-005	2.8400e-003	0.0000	7.6479	7.6479	2.0000e-004	0.0000	7.6528
Total	**5.0200e-003**	**0.0451**	**0.0356**	**2.2000e-004**	**0.0139**	**1.0000e-004**	**0.0140**	**3.7600e-003**	**1.0000e-004**	**3.8500e-003**	**0.0000**	**21.1040**	**21.1040**	**1.2900e-003**	**0.0000**	**21.1362**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.4200e-003	0.2294	0.3958	5.2000e-004		8.6000e-004	8.6000e-004		8.6000e-004	8.6000e-004	0.0000	45.8621	45.8621	0.0148	0.0000	46.2329
Paving	0.0166					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0260**	**0.2294**	**0.3958**	**5.2000e-004**		**8.6000e-004**	**8.6000e-004**		**8.6000e-004**	**8.6000e-004**	**0.0000**	**45.8621**	**45.8621**	**0.0148**	**0.0000**	**46.2329**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1500e-003	0.0423	8.3700e-003	1.4000e-004	3.3700e-003	4.0000e-005	3.4100e-003	9.7000e-004	4.0000e-005	1.0100e-003	0.0000	13.4561	13.4561	1.0900e-003	0.0000	13.4834
Worker	3.8700e-003	2.7500e-003	0.0272	8.0000e-005	0.0105	6.0000e-005	0.0106	2.7900e-003	6.0000e-005	2.8400e-003	0.0000	7.6479	7.6479	2.0000e-004	0.0000	7.6528
Total	**5.0200e-003**	**0.0451**	**0.0356**	**2.2000e-004**	**0.0139**	**1.0000e-004**	**0.0140**	**3.7600e-003**	**1.0000e-004**	**3.8500e-003**	**0.0000**	**21.1040**	**21.1040**	**1.2900e-003**	**0.0000**	**21.1362**

3.4 Road Pavement (Topcoat) - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0254	0.2563	0.3527	5.3000e-004		0.0130	0.0130		0.0119	0.0119	0.0000	46.7606	46.7606	0.0151	0.0000	47.1387
Paving	0.0166					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0420**	**0.2563**	**0.3527**	**5.3000e-004**		**0.0130**	**0.0130**		**0.0119**	**0.0119**	**0.0000**	**46.7606**	**46.7606**	**0.0151**	**0.0000**	**47.1387**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1000e-003	0.0404	7.9900e-003	1.4000e-004	3.2200e-003	4.0000e-005	3.2600e-003	9.3000e-004	4.0000e-005	9.7000e-004	0.0000	12.8554	12.8554	1.0400e-003	0.0000	12.8814
Worker	3.7000e-003	2.6300e-003	0.0260	8.0000e-005	0.0100	6.0000e-005	0.0101	2.6600e-003	5.0000e-005	2.7200e-003	0.0000	7.3064	7.3064	1.9000e-004	0.0000	7.3112
Total	**4.8000e-003**	**0.0431**	**0.0340**	**2.2000e-004**	**0.0132**	**1.0000e-004**	**0.0133**	**3.5900e-003**	**9.0000e-005**	**3.6900e-003**	**0.0000**	**20.1618**	**20.1618**	**1.2300e-003**	**0.0000**	**20.1926**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.4000e-003	0.2335	0.4029	5.3000e-004		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004	0.0000	46.7606	46.7606	0.0151	0.0000	47.1387
Paving	0.0166					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0260**	**0.2335**	**0.4029**	**5.3000e-004**		**8.7000e-004**	**8.7000e-004**		**8.7000e-004**	**8.7000e-004**	**0.0000**	**46.7606**	**46.7606**	**0.0151**	**0.0000**	**47.1387**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1000e-003	0.0404	7.9900e-003	1.4000e-004	3.2200e-003	4.0000e-005	3.2600e-003	9.3000e-004	4.0000e-005	9.7000e-004	0.0000	12.8554	12.8554	1.0400e-003	0.0000	12.8814
Worker	3.7000e-003	2.6300e-003	0.0260	8.0000e-005	0.0100	6.0000e-005	0.0101	2.6600e-003	5.0000e-005	2.7200e-003	0.0000	7.3064	7.3064	1.9000e-004	0.0000	7.3112
Total	**4.8000e-003**	**0.0431**	**0.0340**	**2.2000e-004**	**0.0132**	**1.0000e-004**	**0.0133**	**3.5900e-003**	**9.0000e-005**	**3.6900e-003**	**0.0000**	**20.1618**	**20.1618**	**1.2300e-003**	**0.0000**	**20.1926**

Construction Phase 2 Roadway_Mitigated

Kings County, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Grading	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Road Pavement (Topcoat)	0.34	0.08	-0.13	0.00	0.93	0.92	0.00	0.00	0.00	0.00	0.00	0.00
Road Paving (Aggregate Base)	0.34	0.08	-0.12	0.00	0.93	0.92	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Excavators	Diesel	No Change	0	0	No Change	0.00
Graders	Diesel	No Change	0	0	No Change	0.00
Pavers	Diesel	Tier 4 Interim	1	1	No Change	0.00
Paving Equipment	Diesel	Tier 4 Interim	1	1	No Change	0.00
Rollers	Diesel	Tier 4 Interim	4	4	No Change	0.00
Rubber Tired Dozers	Diesel	No Change	0	0	No Change	0.00
Scrapers	Diesel	No Change	0	0	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	3	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Unmitigated tons/yr						Unmitigated mt/yr					
Excavators	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Graders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Pavers	9.82000E-003	9.31900E-002	1.54770E-001	2.50000E-004	4.35000E-003	4.00000E-003	0.00000E+000	2.20910E+001	2.20910E+001	7.14000E-003	0.00000E+000	2.22696E+001
Paving Equipment	9.23000E-003	8.37800E-002	1.43910E-001	2.30000E-004	4.05000E-003	3.72000E-003	0.00000E+000	2.00398E+001	2.00398E+001	6.48000E-003	0.00000E+000	2.02018E+001
Rollers	3.19100E-002	3.33820E-001	4.05160E-001	5.70000E-004	1.76700E-002	1.62500E-002	0.00000E+000	5.04920E+001	5.04920E+001	1.63300E-002	0.00000E+000	5.09003E+001
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Scrapers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	7.12000E-003	7.16900E-002	1.10660E-001	1.50000E-004	3.29000E-003	3.03000E-003	0.00000E+000	1.35510E+001	1.35510E+001	4.38000E-003	0.00000E+000	1.36606E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Mitigated tons/yr						Mitigated mt/yr					
Excavators	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Graders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Pavers	3.09000E-003	1.10770E-001	1.90620E-001	2.50000E-004	4.10000E-004	4.10000E-004	0.00000E+000	2.20910E+001	2.20910E+001	7.14000E-003	0.00000E+000	2.22696E+001
Paving Equipment	2.82000E-003	1.00910E-001	1.73660E-001	2.30000E-004	3.80000E-004	3.80000E-004	0.00000E+000	2.00398E+001	2.00398E+001	6.48000E-003	0.00000E+000	2.02018E+001
Rollers	1.29200E-002	2.51280E-001	4.34450E-001	5.70000E-004	9.40000E-004	9.40000E-004	0.00000E+000	5.04920E+001	5.04920E+001	1.63300E-002	0.00000E+000	5.09002E+001
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Scrapers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	7.12000E-003	7.16900E-002	1.10660E-001	1.50000E-004	3.29000E-003	3.03000E-003	0.00000E+000	1.35510E+001	1.35510E+001	4.38000E-003	0.00000E+000	1.36606E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Percent Reduction											
Excavators	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Graders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Pavers	6.85336E-001	-1.88647E-001	-2.31634E-001	0.00000E+000	9.05747E-001	8.97500E-001	0.00000E+000	1.35802E-006	1.35802E-006	0.00000E+000	0.00000E+000	8.98084E-007
Paving Equipment	6.94475E-001	-2.04464E-001	-2.06726E-001	0.00000E+000	9.06173E-001	8.97849E-001	0.00000E+000	9.98015E-007	9.98015E-007	0.00000E+000	0.00000E+000	9.90010E-007

Rollers	5.95111E-001	2.47259E-001	-7.22924E-002	0.00000E+000	9.46802E-001	9.42154E-001	0.00000E+000	1.18831E-006	1.18831E-006	0.00000E+000	0.00000E+000	1.17878E-006
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Scrapers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.47590E-006	1.47590E-006	0.00000E+000	0.00000E+000	1.46406E-006

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input		Mitigation Input		Mitigation Input	
No	Soil Stabilizer for unpaved Roads	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
No	Water Exposed Area	PM10 Reduction	0.00	PM2.5 Reduction	0.00	Frequency (per day)	
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	0.00		
No	Clean Paved Road	% PM Reduction	0.00				

		Unmitigated		Mitigated		Percent Reduction	
Phase	Source	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Grading	Fugitive Dust	0.04	0.00	0.04	0.00	0.00	0.00
Grading	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Road Pavement (Topcoat)	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Road Pavement (Topcoat)	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Road Paving (Aggregate Base)	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Road Paving (Aggregate Base)	Roads	0.01	0.00	0.01	0.00	0.00	0.00

CalEEMod Output: Phase 2 Construction – Mitigated

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Construction Phase 2 - Mitigated

Kings County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	470.45	1000sqft	10.80	470,448.00	0
Unrefrigerated Warehouse-No Rail	1,864.15	1000sqft	42.79	1,864,149.00	0
Other Asphalt Surfaces	60.52	Acre	60.52	2,636,035.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	37
Climate Zone	3			**Operational Year**	2040
Utility Company					
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - See assumptions file

Construction Phase - See assumptions file.

Off-road Equipment - See assumptions file.

Trips and VMT - See assumptions file.

Demolition -

Grading -

Construction Off-road Equipment Mitigation - Mitigation requiring use of Tier 4 equipment.

Architectural Coating - Mitigation requiring paints with VOC content of 50 g/L or less.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	150.00	50.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim

tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	220.00	234.00
tblConstructionPhase	NumDays	3,100.00	3,298.00
tblConstructionPhase	NumDays	200.00	20.00
tblConstructionPhase	NumDays	200.00	20.00
tblConstructionPhase	NumDays	310.00	330.00
tblConstructionPhase	NumDays	220.00	234.00
tblConstructionPhase	NumDays	120.00	128.00
tblLandUse	LandUseSquareFeet	470,450.00	470,448.00
tblLandUse	LandUseSquareFeet	1,864,150.00	1,864,149.00
tblLandUse	LandUseSquareFeet	2,636,251.20	2,636,035.00
tblOffRoadEquipment	HorsePower	85.00	325.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripNumber	98.00	100.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00

tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	8.7280	18.4705	21.3283	0.0781	7.1412	0.4386	7.5797	2.3943	0.4062	2.8005	0.0000	7,129.5736	7,129.5736	0.7471	0.0000	7,148.2506
2025	1.6741	11.3505	12.6332	0.0588	4.6959	0.1342	4.8302	1.2515	0.1252	1.3766	0.0000	5,417.2397	5,417.2397	0.4000	0.0000	5,427.2388
2026	1.5075	10.2343	11.1692	0.0557	4.0444	0.0955	4.1399	1.0892	0.0895	1.1787	0.0000	5,135.7224	5,135.7224	0.3389	0.0000	5,144.1936
2027	1.4417	10.0892	10.5807	0.0546	4.0444	0.0945	4.1389	1.0892	0.0886	1.1778	0.0000	5,043.9546	5,043.9546	0.3364	0.0000	5,052.3651
2028	1.3696	9.9286	10.0345	0.0536	4.0290	0.0928	4.1217	1.0850	0.0870	1.1720	0.0000	4,945.0657	4,945.0657	0.3325	0.0000	4,953.3783
2029	1.3067	9.8502	9.5941	0.0530	4.0445	0.0919	4.1363	1.0892	0.0862	1.1754	0.0000	4,893.4701	4,893.4701	0.3310	0.0000	4,901.7457
2030	1.2287	9.1518	9.1622	0.0528	4.0445	0.0412	4.0856	1.0892	0.0397	1.1289	0.0000	4,872.4126	4,872.4126	0.2703	0.0000	4,879.1711
2031	1.1559	9.0561	8.7371	0.0522	4.0445	0.0401	4.0845	1.0892	0.0387	1.1279	0.0000	4,819.2578	4,819.2578	0.2682	0.0000	4,825.9638
2032	1.0943	9.0055	8.3999	0.0519	4.0600	0.0392	4.0992	1.0934	0.0379	1.1313	0.0000	4,792.7300	4,792.7300	0.2672	0.0000	4,799.4103
2033	1.0274	8.8617	8.0153	0.0511	4.0290	0.0380	4.0670	1.0850	0.0368	1.1218	0.0000	4,718.0336	4,718.0336	0.2632	0.0000	4,724.6132
2034	0.9813	8.7996	7.7289	0.0508	4.0290	0.0372	4.0661	1.0850	0.0360	1.1210	0.0000	4,685.8924	4,685.8924	0.2607	0.0000	4,692.4110

2035	0.9340	8.6820	7.5163	0.0507	4.0445	0.0290	4.0735	1.0892	0.0279	1.1171	0.0000	4,676.7468	4,676.7468	0.2592	0.0000	4,683.2265
2036	0.5976	5.5551	4.8093	0.0324	2.5878	0.0186	2.6064	0.6969	0.0179	0.7148	0.0000	2,992.4012	2,992.4012	0.1658	0.0000	2,996.5472
Maximum	**8.7280**	**18.4705**	**21.3283**	**0.0781**	**7.1412**	**0.4386**	**7.5797**	**2.3943**	**0.4062**	**2.8005**	**0.0000**	**7,129.5736**	**7,129.5736**	**0.7471**	**0.0000**	**7,148.2506**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	8.1008	15.4023	23.4821	0.0781	7.1412	0.0658	7.2069	2.3943	0.0636	2.4578	0.0000	7,129.5717	7,129.5717	0.7471	0.0000	7,148.2487
2025	1.5240	10.8108	13.2402	0.0588	4.6959	0.0407	4.7366	1.2515	0.0388	1.2902	0.0000	5,417.2391	5,417.2391	0.4000	0.0000	5,427.2382
2026	1.4217	9.9894	11.4229	0.0557	4.0444	0.0369	4.0813	1.0892	0.0351	1.1242	0.0000	5,135.7221	5,135.7221	0.3389	0.0000	5,144.1933
2027	1.3558	9.8443	10.8344	0.0546	4.0444	0.0359	4.0803	1.0892	0.0341	1.1233	0.0000	5,043.9543	5,043.9543	0.3364	0.0000	5,052.3648
2028	1.2841	9.6846	10.2872	0.0536	4.0290	0.0344	4.0634	1.0850	0.0327	1.1178	0.0000	4,945.0654	4,945.0654	0.3325	0.0000	4,953.3779
2029	1.2208	9.6053	9.8478	0.0530	4.0445	0.0333	4.0777	1.0892	0.0317	1.1209	0.0000	4,893.4697	4,893.4697	0.3310	0.0000	4,901.7453
2030	1.1432	9.4796	9.3999	0.0528	4.0445	0.0289	4.0734	1.0892	0.0274	1.1166	0.0000	4,872.4122	4,872.4122	0.2703	0.0000	4,879.1707
2031	1.0704	9.3839	8.9748	0.0522	4.0445	0.0278	4.0723	1.0892	0.0264	1.1156	0.0000	4,819.2574	4,819.2574	0.2682	0.0000	4,825.9634
2032	1.0084	9.3345	8.6385	0.0519	4.0600	0.0269	4.0869	1.0934	0.0256	1.1190	0.0000	4,792.7296	4,792.7296	0.2672	0.0000	4,799.4099
2033	0.9422	9.1882	8.2521	0.0511	4.0290	0.0258	4.0548	1.0850	0.0246	1.1096	0.0000	4,718.0332	4,718.0332	0.2632	0.0000	4,724.6128
2034	0.8961	9.1261	7.9657	0.0508	4.0290	0.0250	4.0539	1.0850	0.0238	1.1088	0.0000	4,685.8920	4,685.8920	0.2607	0.0000	4,692.4106

2035	0.8584	9.1046	7.7574	0.0507	4.0445	0.0232	4.0677	1.0892	0.0221	1.1113	0.0000	4,676.7464	4,676.7464	0.2592	0.0000	4,683.2260
2036	0.5493	5.8256	4.9635	0.0324	2.5878	0.0149	2.6027	0.6969	0.0141	0.7111	0.0000	2,992.4009	2,992.4009	0.1658	0.0000	2,996.5469
Maximum	**8.1008**	**15.4023**	**23.4821**	**0.0781**	**7.1412**	**0.0658**	**7.2069**	**2.3943**	**0.0636**	**2.4578**	**0.0000**	**7,129.5717**	**7,129.5717**	**0.7471**	**0.0000**	**7,148.2487**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**7.25**	**1.75**	**-4.13**	**0.00**	**0.00**	**64.77**	**1.38**	**0.00**	**64.22**	**4.39**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2024**	**3-31-2024**	7.8008	6.5435
2	**4-1-2024**	**6-30-2024**	7.3649	6.2102
3	**7-1-2024**	**9-30-2024**	6.4943	5.8603
4	**10-1-2024**	**12-31-2024**	5.5907	4.9627
5	**1-1-2025**	**3-31-2025**	3.9935	3.5726
6	**4-1-2025**	**6-30-2025**	3.0202	2.9228
7	**7-1-2025**	**9-30-2025**	3.0082	2.9249
8	**10-1-2025**	**12-31-2025**	3.0535	2.9702
9	**1-1-2026**	**3-31-2026**	2.9304	2.8489
10	**4-1-2026**	**6-30-2026**	2.9210	2.8387
11	**7-1-2026**	**9-30-2026**	2.9531	2.8698
12	**10-1-2026**	**12-31-2026**	2.9955	2.9123
13	**1-1-2027**	**3-31-2027**	2.8757	2.7942
14	**4-1-2027**	**6-30-2027**	2.8685	2.7861
15	**7-1-2027**	**9-30-2027**	2.9000	2.8167
16	**10-1-2027**	**12-31-2027**	2.9396	2.8563
17	**1-1-2028**	**3-31-2028**	2.8578	2.7754
18	**4-1-2028**	**6-30-2028**	2.8212	2.7389

19	**7-1-2028**	**9-30-2028**	2.8522	2.7690
20	**10-1-2028**	**12-31-2028**	2.8892	2.8059
21	**1-1-2029**	**3-31-2029**	2.7781	2.6966
22	**4-1-2029**	**6-30-2029**	2.7751	2.6927
23	**7-1-2029**	**9-30-2029**	2.8056	2.7223
24	**10-1-2029**	**12-31-2029**	2.8398	2.7565
25	**1-1-2030**	**3-31-2030**	2.5840	2.6437
26	**4-1-2030**	**6-30-2030**	2.5815	2.6419
27	**7-1-2030**	**9-30-2030**	2.6099	2.6709
28	**10-1-2030**	**12-31-2030**	2.6414	2.7024
29	**1-1-2031**	**3-31-2031**	2.5395	2.5992
30	**4-1-2031**	**6-30-2031**	2.5394	2.5997
31	**7-1-2031**	**9-30-2031**	2.5673	2.6283
32	**10-1-2031**	**12-31-2031**	2.5960	2.6570
33	**1-1-2032**	**3-31-2032**	2.5275	2.5878
34	**4-1-2032**	**6-30-2032**	2.5016	2.5619
35	**7-1-2032**	**9-30-2032**	2.5291	2.5901
36	**10-1-2032**	**12-31-2032**	2.5552	2.6162
37	**1-1-2033**	**3-31-2033**	2.4642	2.5238
38	**4-1-2033**	**6-30-2033**	2.4680	2.5283
39	**7-1-2033**	**9-30-2033**	2.4951	2.5561
40	**10-1-2033**	**12-31-2033**	2.5190	2.5799
41	**1-1-2034**	**3-31-2034**	2.4355	2.4952
42	**4-1-2034**	**6-30-2034**	2.4406	2.5009
43	**7-1-2034**	**9-30-2034**	2.4674	2.5284
44	**10-1-2034**	**12-31-2034**	2.4897	2.5506
45	**1-1-2035**	**3-31-2035**	2.3841	2.4696

46	**4-1-2035**	**6-30-2035**	2.3898	2.4763
47	**7-1-2035**	**9-30-2035**	2.4161	2.5035
48	**10-1-2035**	**12-31-2035**	2.4371	2.5245
49	**1-1-2036**	**3-31-2036**	2.4106	2.4970
50	**4-1-2036**	**6-30-2036**	2.3898	2.4763
51	**7-1-2036**	**9-30-2036**	1.3394	1.3878
		Highest	7.8008	6.5435

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2024	1/26/2024	5	20	
2	Onsite Demolition Debris Reprocessing	Demolition	1/1/2024	1/26/2024	5	20	
3	Site Preparation	Site Preparation	1/1/2024	6/26/2024	5	128	
4	Grading	Grading	1/1/2024	4/4/2025	5	330	
5	Building Construction	Building Construction	1/1/2024	8/20/2036	5	3298	
6	Paving	Paving	1/1/2024	11/21/2024	5	234	
7	Architectural Coating	Architectural Coating	1/1/2024	11/21/2024	5	234	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 825

Acres of Paving: 60.52

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 3,501,896; Non-Residential Outdoor: 1,167,299; Striped Parking

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48
Onsite Demolition Debris Reprocessing	Concrete/Industrial Saws	0	8.00	81	0.73
Onsite Demolition Debris Reprocessing	Crushing/Proc. Equipment	1	8.00	325	0.78
Onsite Demolition Debris Reprocessing	Excavators	0	8.00	158	0.38
Onsite Demolition Debris Reprocessing	Rubber Tired Dozers	0	8.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	4.00	100.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	4.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	4.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	2,088.00	815.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	418.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Onsite Demolition Debris Reprocessing	1	3.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

3.2 Demolition - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0107	0.0000	0.0107	1.6100e-003	0.0000	1.6100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0224	0.2088	0.1971	3.9000e-004		9.6000e-003	9.6000e-003		8.9200e-003	8.9200e-003	0.0000	33.9961	33.9961	9.5100e-003	0.0000	34.2338
Total	**0.0224**	**0.2088**	**0.1971**	**3.9000e-004**	**0.0107**	**9.6000e-003**	**0.0203**	**1.6100e-003**	**8.9200e-003**	**0.0105**	**0.0000**	**33.9961**	**33.9961**	**9.5100e-003**	**0.0000**	**34.2338**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.4000e-004	7.8100e-003	1.4400e-003	4.0000e-005	8.6000e-004	1.0000e-005	8.7000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	3.5634	3.5634	1.9000e-004	0.0000	3.5683
Vendor	8.0000e-005	3.0200e-003	6.0000e-004	1.0000e-005	2.4000e-004	0.0000	2.4000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.9612	0.9612	8.0000e-005	0.0000	0.9631
Worker	6.9000e-004	4.9000e-004	4.8600e-003	2.0000e-005	1.8700e-003	1.0000e-005	1.8800e-003	5.0000e-004	1.0000e-005	5.1000e-004	0.0000	1.3657	1.3657	4.0000e-005	0.0000	1.3666
Total	**1.0100e-003**	**0.0113**	**6.9000e-003**	**7.0000e-005**	**2.9700e-003**	**2.0000e-005**	**2.9900e-003**	**8.1000e-004**	**2.0000e-005**	**8.3000e-004**	**0.0000**	**5.8903**	**5.8903**	**3.1000e-004**	**0.0000**	**5.8979**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0107	0.0000	0.0107	1.6100e-003	0.0000	1.6100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.8400e-003	0.1356	0.2467	3.9000e-004		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004	0.0000	33.9960	33.9960	9.5100e-003	0.0000	34.2338
Total	**5.8400e-003**	**0.1356**	**0.2467**	**3.9000e-004**	**0.0107**	**6.2000e-004**	**0.0113**	**1.6100e-003**	**6.2000e-004**	**2.2300e-003**	**0.0000**	**33.9960**	**33.9960**	**9.5100e-003**	**0.0000**	**34.2338**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.4000e-004	7.8100e-003	1.4400e-003	4.0000e-005	8.6000e-004	1.0000e-005	8.7000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	3.5634	3.5634	1.9000e-004	0.0000	3.5683
Vendor	8.0000e-005	3.0200e-003	6.0000e-004	1.0000e-005	2.4000e-004	0.0000	2.4000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.9612	0.9612	8.0000e-005	0.0000	0.9631
Worker	6.9000e-004	4.9000e-004	4.8600e-003	2.0000e-005	1.8700e-003	1.0000e-005	1.8800e-003	5.0000e-004	1.0000e-005	5.1000e-004	0.0000	1.3657	1.3657	4.0000e-005	0.0000	1.3666
Total	**1.0100e-003**	**0.0113**	**6.9000e-003**	**7.0000e-005**	**2.9700e-003**	**2.0000e-005**	**2.9900e-003**	**8.1000e-004**	**2.0000e-005**	**8.3000e-004**	**0.0000**	**5.8903**	**5.8903**	**3.1000e-004**	**0.0000**	**5.8979**

3.3 Onsite Demolition Debris Reprocessing - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0104	0.0482	0.0475	2.2000e-004		1.5600e-003	1.5600e-003		1.5600e-003	1.5600e-003	0.0000	23.0502	23.0502	8.5000e-004	0.0000	23.0715
Total	**0.0104**	**0.0482**	**0.0475**	**2.2000e-004**		**1.5600e-003**	**1.5600e-003**		**1.5600e-003**	**1.5600e-003**	**0.0000**	**23.0502**	**23.0502**	**8.5000e-004**	**0.0000**	**23.0715**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	1.0000e-004	9.7000e-004	0.0000	3.7000e-004	0.0000	3.8000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2731	0.2731	1.0000e-005	0.0000	0.2733
Total	**1.4000e-004**	**1.0000e-004**	**9.7000e-004**	**0.0000**	**3.7000e-004**	**0.0000**	**3.8000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.2731**	**0.2731**	**1.0000e-005**	**0.0000**	**0.2733**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.5800e-003	0.0577	0.1163	2.2000e-004		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004	0.0000	23.0502	23.0502	8.5000e-004	0.0000	23.0715
Total	**3.5800e-003**	**0.0577**	**0.1163**	**2.2000e-004**		**3.6000e-004**	**3.6000e-004**		**3.6000e-004**	**3.6000e-004**	**0.0000**	**23.0502**	**23.0502**	**8.5000e-004**	**0.0000**	**23.0715**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	1.0000e-004	9.7000e-004	0.0000	3.7000e-004	0.0000	3.8000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2731	0.2731	1.0000e-005	0.0000	0.2733
Total	**1.4000e-004**	**1.0000e-004**	**9.7000e-004**	**0.0000**	**3.7000e-004**	**0.0000**	**3.8000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.2731**	**0.2731**	**1.0000e-005**	**0.0000**	**0.2733**

3.4 Site Preparation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.1562	0.0000	1.1562	0.6356	0.0000	0.6356	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1703	1.7393	1.1735	2.4400e-003		0.0787	0.0787		0.0724	0.0724	0.0000	214.1252	214.1252	0.0693	0.0000	215.8565
Total	**0.1703**	**1.7393**	**1.1735**	**2.4400e-003**	**1.1562**	**0.0787**	**1.2349**	**0.6356**	**0.0724**	**0.7079**	**0.0000**	**214.1252**	**214.1252**	**0.0693**	**0.0000**	**215.8565**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.3000e-004	0.0194	3.8300e-003	6.0000e-005	1.5400e-003	2.0000e-005	1.5600e-003	4.5000e-004	2.0000e-005	4.6000e-004	0.0000	6.1514	6.1514	5.0000e-004	0.0000	6.1638
Worker	5.3100e-003	3.7800e-003	0.0373	1.2000e-004	0.0144	8.0000e-005	0.0145	3.8200e-003	8.0000e-005	3.9000e-003	0.0000	10.4885	10.4885	2.7000e-004	0.0000	10.4953
Total	**5.8400e-003**	**0.0231**	**0.0411**	**1.8000e-004**	**0.0159**	**1.0000e-004**	**0.0160**	**4.2700e-003**	**1.0000e-004**	**4.3600e-003**	**0.0000**	**16.6399**	**16.6399**	**7.7000e-004**	**0.0000**	**16.6591**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.1562	0.0000	1.1562	0.6356	0.0000	0.6356	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0446	0.7784	1.4694	2.4400e-003		3.9700e-003	3.9700e-003		3.9700e-003	3.9700e-003	0.0000	214.1250	214.1250	0.0693	0.0000	215.8563
Total	**0.0446**	**0.7784**	**1.4694**	**2.4400e-003**	**1.1562**	**3.9700e-003**	**1.1602**	**0.6356**	**3.9700e-003**	**0.6395**	**0.0000**	**214.1250**	**214.1250**	**0.0693**	**0.0000**	**215.8563**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.3000e-004	0.0194	3.8300e-003	6.0000e-005	1.5400e-003	2.0000e-005	1.5600e-003	4.5000e-004	2.0000e-005	4.6000e-004	0.0000	6.1514	6.1514	5.0000e-004	0.0000	6.1638
Worker	5.3100e-003	3.7800e-003	0.0373	1.2000e-004	0.0144	8.0000e-005	0.0145	3.8200e-003	8.0000e-005	3.9000e-003	0.0000	10.4885	10.4885	2.7000e-004	0.0000	10.4953
Total	**5.8400e-003**	**0.0231**	**0.0411**	**1.8000e-004**	**0.0159**	**1.0000e-004**	**0.0160**	**4.2700e-003**	**1.0000e-004**	**4.3600e-003**	**0.0000**	**16.6399**	**16.6399**	**7.7000e-004**	**0.0000**	**16.6591**

3.5 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.2264	0.0000	1.2264	0.4809	0.0000	0.4809	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4216	4.2414	3.6317	8.1300e-003		0.1749	0.1749		0.1609	0.1609	0.0000	714.2058	714.2058	0.2310	0.0000	719.9805
Total	**0.4216**	**4.2414**	**3.6317**	**8.1300e-003**	**1.2264**	**0.1749**	**1.4013**	**0.4809**	**0.1609**	**0.6418**	**0.0000**	**714.2058**	**714.2058**	**0.2310**	**0.0000**	**719.9805**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0800e-003	0.0396	7.8300e-003	1.3000e-004	3.1600e-003	4.0000e-005	3.1900e-003	9.1000e-004	4.0000e-005	9.5000e-004	0.0000	12.5911	12.5911	1.0200e-003	0.0000	12.6166
Worker	0.0121	8.5900e-003	0.0849	2.6000e-004	0.0327	1.9000e-004	0.0329	8.6900e-003	1.7000e-004	8.8700e-003	0.0000	23.8540	23.8540	6.2000e-004	0.0000	23.8695
Total	**0.0132**	**0.0482**	**0.0927**	**3.9000e-004**	**0.0359**	**2.3000e-004**	**0.0361**	**9.6000e-003**	**2.1000e-004**	**9.8200e-003**	**0.0000**	**36.4451**	**36.4451**	**1.6400e-003**	**0.0000**	**36.4861**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.2264	0.0000	1.2264	0.4809	0.0000	0.4809	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1324	2.5245	4.8107	8.1300e-003		0.0133	0.0133		0.0133	0.0133	0.0000	714.2049	714.2049	0.2310	0.0000	719.9796
Total	**0.1324**	**2.5245**	**4.8107**	**8.1300e-003**	**1.2264**	**0.0133**	**1.2397**	**0.4809**	**0.0133**	**0.4942**	**0.0000**	**714.2049**	**714.2049**	**0.2310**	**0.0000**	**719.9796**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0800e-003	0.0396	7.8300e-003	1.3000e-004	3.1600e-003	4.0000e-005	3.1900e-003	9.1000e-004	4.0000e-005	9.5000e-004	0.0000	12.5911	12.5911	1.0200e-003	0.0000	12.6166
Worker	0.0121	8.5900e-003	0.0849	2.6000e-004	0.0327	1.9000e-004	0.0329	8.6900e-003	1.7000e-004	8.8700e-003	0.0000	23.8540	23.8540	6.2000e-004	0.0000	23.8695
Total	**0.0132**	**0.0482**	**0.0927**	**3.9000e-004**	**0.0359**	**2.3000e-004**	**0.0361**	**9.6000e-003**	**2.1000e-004**	**9.8200e-003**	**0.0000**	**36.4451**	**36.4451**	**1.6400e-003**	**0.0000**	**36.4861**

3.5 Grading - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.6422	0.0000	0.6422	0.1598	0.0000	0.1598	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0986	0.9501	0.8953	2.1100e-003		0.0385	0.0385		0.0354	0.0354	0.0000	185.3211	185.3211	0.0599	0.0000	186.8195
Total	**0.0986**	**0.9501**	**0.8953**	**2.1100e-003**	**0.6422**	**0.0385**	**0.6807**	**0.1598**	**0.0354**	**0.1952**	**0.0000**	**185.3211**	**185.3211**	**0.0599**	**0.0000**	**186.8195**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7000e-004	0.0102	1.9300e-003	3.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	3.2429	3.2429	2.7000e-004	0.0000	3.2496
Worker	2.9500e-003	2.0100e-003	0.0202	7.0000e-005	8.4900e-003	5.0000e-005	8.5400e-003	2.2600e-003	4.0000e-005	2.3000e-003	0.0000	5.9494	5.9494	1.4000e-004	0.0000	5.9530
Total	**3.2200e-003**	**0.0122**	**0.0222**	**1.0000e-004**	**9.3100e-003**	**6.0000e-005**	**9.3700e-003**	**2.5000e-003**	**5.0000e-005**	**2.5500e-003**	**0.0000**	**9.1923**	**9.1923**	**4.1000e-004**	**0.0000**	**9.2026**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.6422	0.0000	0.6422	0.1598	0.0000	0.1598	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0344	0.6552	1.2486	2.1100e-003		3.4500e-003	3.4500e-003		3.4500e-003	3.4500e-003	0.0000	185.3209	185.3209	0.0599	0.0000	186.8193
Total	**0.0344**	**0.6552**	**1.2486**	**2.1100e-003**	**0.6422**	**3.4500e-003**	**0.6457**	**0.1598**	**3.4500e-003**	**0.1632**	**0.0000**	**185.3209**	**185.3209**	**0.0599**	**0.0000**	**186.8193**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7000e-004	0.0102	1.9300e-003	3.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	3.2429	3.2429	2.7000e-004	0.0000	3.2496
Worker	2.9500e-003	2.0100e-003	0.0202	7.0000e-005	8.4900e-003	5.0000e-005	8.5400e-003	2.2600e-003	4.0000e-005	2.3000e-003	0.0000	5.9494	5.9494	1.4000e-004	0.0000	5.9530
Total	**3.2200e-003**	**0.0122**	**0.0222**	**1.0000e-004**	**9.3100e-003**	**6.0000e-005**	**9.3700e-003**	**2.5000e-003**	**5.0000e-005**	**2.5500e-003**	**0.0000**	**9.1923**	**9.1923**	**4.1000e-004**	**0.0000**	**9.2026**

3.6 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7223	303.7223	0.0718	0.0000	305.5179
Total	**0.1928**	**1.7611**	**2.1179**	**3.5300e-003**		**0.0803**	**0.0803**		**0.0756**	**0.0756**	**0.0000**	**303.7223**	**303.7223**	**0.0718**	**0.0000**	**305.5179**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2191	8.0690	1.5954	0.0270	0.6431	7.6800e-003	0.6508	0.1857	7.3400e-003	0.1931	0.0000	2,565.4321	2,565.4321	0.2078	0.0000	2,570.6274
Worker	1.2615	0.8970	8.8597	0.0275	3.4168	0.0198	3.4366	0.9076	0.0182	0.9259	0.0000	2,490.3621	2,490.3621	0.0647	0.0000	2,491.9790
Total	**1.4805**	**8.9659**	**10.4551**	**0.0546**	**4.0599**	**0.0275**	**4.0874**	**1.0934**	**0.0256**	**1.1189**	**0.0000**	**5,055.7942**	**5,055.7942**	**0.2725**	**0.0000**	**5,062.6064**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0950	1.3928	2.3633	3.5300e-003		0.0112	0.0112		0.0112	0.0112	0.0000	303.7220	303.7220	0.0718	0.0000	305.5175
Total	**0.0950**	**1.3928**	**2.3633**	**3.5300e-003**		**0.0112**	**0.0112**		**0.0112**	**0.0112**	**0.0000**	**303.7220**	**303.7220**	**0.0718**	**0.0000**	**305.5175**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2191	8.0690	1.5954	0.0270	0.6431	7.6800e-003	0.6508	0.1857	7.3400e-003	0.1931	0.0000	2,565.4321	2,565.4321	0.2078	0.0000	2,570.6274
Worker	1.2615	0.8970	8.8597	0.0275	3.4168	0.0198	3.4366	0.9076	0.0182	0.9259	0.0000	2,490.3621	2,490.3621	0.0647	0.0000	2,491.9790
Total	**1.4805**	**8.9659**	**10.4551**	**0.0546**	**4.0599**	**0.0275**	**4.0874**	**1.0934**	**0.0256**	**1.1189**	**0.0000**	**5,055.7942**	**5,055.7942**	**0.2725**	**0.0000**	**5,062.6064**

3.6 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2124	7.9537	1.5120	0.0267	0.6407	7.5700e-003	0.6482	0.1850	7.2400e-003	0.1923	0.0000	2,536.0783	2,536.0783	0.2108	0.0000	2,541.3483
Worker	1.1815	0.8073	8.1047	0.0264	3.4038	0.0193	3.4231	0.9042	0.0178	0.9219	0.0000	2,383.9930	2,383.9930	0.0577	0.0000	2,385.4348
Total	**1.3938**	**8.7610**	**9.6167**	**0.0531**	**4.0444**	**0.0269**	**4.0713**	**1.0892**	**0.0250**	**1.1142**	**0.0000**	**4,920.0714**	**4,920.0714**	**0.2685**	**0.0000**	**4,926.7831**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0926	1.3824	2.3527	3.5200e-003		0.0103	0.0103		0.0103	0.0103	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.0926**	**1.3824**	**2.3527**	**3.5200e-003**		**0.0103**	**0.0103**		**0.0103**	**0.0103**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2124	7.9537	1.5120	0.0267	0.6407	7.5700e-003	0.6482	0.1850	7.2400e-003	0.1923	0.0000	2,536.0783	2,536.0783	0.2108	0.0000	2,541.3483
Worker	1.1815	0.8073	8.1047	0.0264	3.4038	0.0193	3.4231	0.9042	0.0178	0.9219	0.0000	2,383.9930	2,383.9930	0.0577	0.0000	2,385.4348
Total	**1.3938**	**8.7610**	**9.6167**	**0.0531**	**4.0444**	**0.0269**	**4.0713**	**1.0892**	**0.0250**	**1.1142**	**0.0000**	**4,920.0714**	**4,920.0714**	**0.2685**	**0.0000**	**4,926.7831**

3.6 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2077	7.8692	1.4550	0.0266	0.6407	7.4800e-003	0.6482	0.1850	7.1500e-003	0.1922	0.0000	2,518.6728	2,518.6728	0.2143	0.0000	2,524.0310
Worker	1.1214	0.7378	7.6152	0.0256	3.4038	0.0192	3.4229	0.9042	0.0176	0.9218	0.0000	2,314.3948	2,314.3948	0.0534	0.0000	2,315.7292
Total	**1.3291**	**8.6070**	**9.0702**	**0.0521**	**4.0444**	**0.0266**	**4.0711**	**1.0892**	**0.0248**	**1.1140**	**0.0000**	**4,833.0675**	**4,833.0675**	**0.2677**	**0.0000**	**4,839.7601**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0926	1.3824	2.3527	3.5200e-003		0.0103	0.0103		0.0103	0.0103	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.0926**	**1.3824**	**2.3527**	**3.5200e-003**		**0.0103**	**0.0103**		**0.0103**	**0.0103**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2077	7.8692	1.4550	0.0266	0.6407	7.4800e-003	0.6482	0.1850	7.1500e-003	0.1922	0.0000	2,518.6728	2,518.6728	0.2143	0.0000	2,524.0310
Worker	1.1214	0.7378	7.6152	0.0256	3.4038	0.0192	3.4229	0.9042	0.0176	0.9218	0.0000	2,314.3948	2,314.3948	0.0534	0.0000	2,315.7292
Total	**1.3291**	**8.6070**	**9.0702**	**0.0521**	**4.0444**	**0.0266**	**4.0711**	**1.0892**	**0.0248**	**1.1140**	**0.0000**	**4,833.0675**	**4,833.0675**	**0.2677**	**0.0000**	**4,839.7601**

3.6 Building Construction - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2035	7.7879	1.4017	0.0264	0.6407	7.3900e-003	0.6481	0.1850	7.0600e-003	0.1921	0.0000	2,503.7978	2,503.7978	0.2170	0.0000	2,509.2215
Worker	1.0598	0.6739	7.0799	0.0247	3.4038	0.0182	3.4220	0.9042	0.0168	0.9209	0.0000	2,237.5020	2,237.5020	0.0483	0.0000	2,238.7101
Total	**1.2632**	**8.4619**	**8.4816**	**0.0511**	**4.0444**	**0.0256**	**4.0700**	**1.0892**	**0.0238**	**1.1130**	**0.0000**	**4,741.2998**	**4,741.2998**	**0.2653**	**0.0000**	**4,747.9316**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0926	1.3824	2.3527	3.5200e-003		0.0103	0.0103		0.0103	0.0103	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.0926**	**1.3824**	**2.3527**	**3.5200e-003**		**0.0103**	**0.0103**		**0.0103**	**0.0103**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.2035	7.7879	1.4017	0.0264	0.6407	7.3900e-003	0.6481	0.1850	7.0600e-003	0.1921	0.0000	2,503.7978	2,503.7978	0.2170	0.0000	2,509.2215
Worker	1.0598	0.6739	7.0799	0.0247	3.4038	0.0182	3.4220	0.9042	0.0168	0.9209	0.0000	2,237.5020	2,237.5020	0.0483	0.0000	2,238.7101
Total	**1.2632**	**8.4619**	**8.4816**	**0.0511**	**4.0444**	**0.0256**	**4.0700**	**1.0892**	**0.0238**	**1.1130**	**0.0000**	**4,741.2998**	**4,741.2998**	**0.2653**	**0.0000**	**4,747.9316**

3.6 Building Construction - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1778	1.6211	2.0910	3.5000e-003		0.0686	0.0686		0.0645	0.0645	0.0000	301.4953	301.4953	0.0709	0.0000	303.2671
Total	**0.1778**	**1.6211**	**2.0910**	**3.5000e-003**		**0.0686**	**0.0686**		**0.0645**	**0.0645**	**0.0000**	**301.4953**	**301.4953**	**0.0709**	**0.0000**	**303.2671**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1996	7.6940	1.3585	0.0262	0.6382	7.3000e-003	0.6455	0.1843	6.9700e-003	0.1913	0.0000	2,482.5046	2,482.5046	0.2178	0.0000	2,487.9503
Worker	0.9923	0.6136	6.5850	0.0239	3.3907	0.0169	3.4076	0.9007	0.0155	0.9162	0.0000	2,161.0659	2,161.0659	0.0438	0.0000	2,162.1609
Total	**1.1919**	**8.3075**	**7.9435**	**0.0501**	**4.0290**	**0.0242**	**4.0531**	**1.0850**	**0.0225**	**1.1075**	**0.0000**	**4,643.5704**	**4,643.5704**	**0.2616**	**0.0000**	**4,650.1112**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0922	1.3771	2.3437	3.5000e-003		0.0102	0.0102		0.0102	0.0102	0.0000	301.4949	301.4949	0.0709	0.0000	303.2667
Total	**0.0922**	**1.3771**	**2.3437**	**3.5000e-003**		**0.0102**	**0.0102**		**0.0102**	**0.0102**	**0.0000**	**301.4949**	**301.4949**	**0.0709**	**0.0000**	**303.2667**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1996	7.6940	1.3585	0.0262	0.6382	7.3000e-003	0.6455	0.1843	6.9700e-003	0.1913	0.0000	2,482.5046	2,482.5046	0.2178	0.0000	2,487.9503
Worker	0.9923	0.6136	6.5850	0.0239	3.3907	0.0169	3.4076	0.9007	0.0155	0.9162	0.0000	2,161.0659	2,161.0659	0.0438	0.0000	2,162.1609
Total	**1.1919**	**8.3075**	**7.9435**	**0.0501**	**4.0290**	**0.0242**	**4.0531**	**1.0850**	**0.0225**	**1.1075**	**0.0000**	**4,643.5704**	**4,643.5704**	**0.2616**	**0.0000**	**4,650.1112**

3.6 Building Construction - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1975	7.6605	1.3293	0.0262	0.6407	7.2500e-003	0.6479	0.1850	6.9200e-003	0.1920	0.0000	2,481.7708	2,481.7708	0.2200	0.0000	2,487.2717
Worker	0.9308	0.5624	6.1658	0.0233	3.4038	0.0158	3.4195	0.9042	0.0145	0.9187	0.0000	2,109.0443	2,109.0443	0.0399	0.0000	2,110.0405
Total	**1.1283**	**8.2229**	**7.4951**	**0.0495**	**4.0445**	**0.0230**	**4.0675**	**1.0892**	**0.0214**	**1.1106**	**0.0000**	**4,590.8152**	**4,590.8152**	**0.2599**	**0.0000**	**4,597.3122**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0926	1.3824	2.3527	3.5200e-003		0.0103	0.0103		0.0103	0.0103	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.0926**	**1.3824**	**2.3527**	**3.5200e-003**		**0.0103**	**0.0103**		**0.0103**	**0.0103**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1975	7.6605	1.3293	0.0262	0.6407	7.2500e-003	0.6479	0.1850	6.9200e-003	0.1920	0.0000	2,481.7708	2,481.7708	0.2200	0.0000	2,487.2717
Worker	0.9308	0.5624	6.1658	0.0233	3.4038	0.0158	3.4195	0.9042	0.0145	0.9187	0.0000	2,109.0443	2,109.0443	0.0399	0.0000	2,110.0405
Total	**1.1283**	**8.2229**	**7.4951**	**0.0495**	**4.0445**	**0.0230**	**4.0675**	**1.0892**	**0.0214**	**1.1106**	**0.0000**	**4,590.8152**	**4,590.8152**	**0.2599**	**0.0000**	**4,597.3122**

3.6 Building Construction - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0336	343.0336	0.0138	0.0000	343.3777
Total	**0.1708**	**1.0355**	**2.1085**	**4.0400e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**343.0336**	**343.0336**	**0.0138**	**0.0000**	**343.3777**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1952	7.6054	1.3029	0.0261	0.6407	7.1700e-003	0.6479	0.1850	6.8500e-003	0.1919	0.0000	2,473.8349	2,473.8349	0.2206	0.0000	2,479.3488
Worker	0.8627	0.5110	5.7508	0.0227	3.4038	0.0147	3.4184	0.9042	0.0135	0.9176	0.0000	2,055.5440	2,055.5440	0.0360	0.0000	2,056.4447
Total	**1.0579**	**8.1164**	**7.0537**	**0.0488**	**4.0445**	**0.0218**	**4.0663**	**1.0892**	**0.0203**	**1.1095**	**0.0000**	**4,529.3790**	**4,529.3790**	**0.2566**	**0.0000**	**4,535.7934**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0853	1.3632	2.3462	4.0400e-003		7.0900e-003	7.0900e-003		7.0900e-003	7.0900e-003	0.0000	343.0332	343.0332	0.0138	0.0000	343.3773
Total	**0.0853**	**1.3632**	**2.3462**	**4.0400e-003**		**7.0900e-003**	**7.0900e-003**		**7.0900e-003**	**7.0900e-003**	**0.0000**	**343.0332**	**343.0332**	**0.0138**	**0.0000**	**343.3773**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1952	7.6054	1.3029	0.0261	0.6407	7.1700e-003	0.6479	0.1850	6.8500e-003	0.1919	0.0000	2,473.8349	2,473.8349	0.2206	0.0000	2,479.3488
Worker	0.8627	0.5110	5.7508	0.0227	3.4038	0.0147	3.4184	0.9042	0.0135	0.9176	0.0000	2,055.5440	2,055.5440	0.0360	0.0000	2,056.4447
Total	**1.0579**	**8.1164**	**7.0537**	**0.0488**	**4.0445**	**0.0218**	**4.0663**	**1.0892**	**0.0203**	**1.1095**	**0.0000**	**4,529.3790**	**4,529.3790**	**0.2566**	**0.0000**	**4,535.7934**

3.6 Building Construction - 2031

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0336	343.0336	0.0138	0.0000	343.3777
Total	**0.1708**	**1.0355**	**2.1085**	**4.0400e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**343.0336**	**343.0336**	**0.0138**	**0.0000**	**343.3777**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1932	7.5590	1.2783	0.0260	0.6407	7.1100e-003	0.6478	0.1850	6.7900e-003	0.1918	0.0000	2,467.9303	2,467.9303	0.2221	0.0000	2,473.4823
Worker	0.7919	0.4617	5.3503	0.0222	3.4038	0.0136	3.4174	0.9042	0.0126	0.9167	0.0000	2,008.2940	2,008.2940	0.0324	0.0000	2,009.1039
Total	**0.9851**	**8.0207**	**6.6286**	**0.0482**	**4.0445**	**0.0208**	**4.0652**	**1.0892**	**0.0193**	**1.1085**	**0.0000**	**4,476.2242**	**4,476.2242**	**0.2545**	**0.0000**	**4,482.5862**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0853	1.3632	2.3462	4.0400e-003		7.0900e-003	7.0900e-003		7.0900e-003	7.0900e-003	0.0000	343.0332	343.0332	0.0138	0.0000	343.3773
Total	**0.0853**	**1.3632**	**2.3462**	**4.0400e-003**		**7.0900e-003**	**7.0900e-003**		**7.0900e-003**	**7.0900e-003**	**0.0000**	**343.0332**	**343.0332**	**0.0138**	**0.0000**	**343.3773**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1932	7.5590	1.2783	0.0260	0.6407	7.1100e-003	0.6478	0.1850	6.7900e-003	0.1918	0.0000	2,467.9303	2,467.9303	0.2221	0.0000	2,473.4823
Worker	0.7919	0.4617	5.3503	0.0222	3.4038	0.0136	3.4174	0.9042	0.0126	0.9167	0.0000	2,008.2940	2,008.2940	0.0324	0.0000	2,009.1039
Total	**0.9851**	**8.0207**	**6.6286**	**0.0482**	**4.0445**	**0.0208**	**4.0652**	**1.0892**	**0.0193**	**1.1085**	**0.0000**	**4,476.2242**	**4,476.2242**	**0.2545**	**0.0000**	**4,482.5862**

3.6 Building Construction - 2032

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1715	1.0394	2.1166	4.0600e-003		0.0194	0.0194		0.0194	0.0194	0.0000	344.3479	344.3479	0.0138	0.0000	344.6933
Total	**0.1715**	**1.0394**	**2.1166**	**4.0600e-003**		**0.0194**	**0.0194**		**0.0194**	**0.0194**	**0.0000**	**344.3479**	**344.3479**	**0.0138**	**0.0000**	**344.6933**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1926	7.5460	1.2679	0.0261	0.6432	7.0600e-003	0.6502	0.1858	6.7400e-003	0.1925	0.0000	2,474.0333	2,474.0333	0.2241	0.0000	2,479.6349
Worker	0.7302	0.4201	5.0154	0.0218	3.4168	0.0128	3.4296	0.9076	0.0117	0.9194	0.0000	1,974.3488	1,974.3488	0.0293	0.0000	1,975.0821
Total	**0.9228**	**7.9661**	**6.2833**	**0.0479**	**4.0600**	**0.0198**	**4.0798**	**1.0934**	**0.0185**	**1.1119**	**0.0000**	**4,448.3821**	**4,448.3821**	**0.2534**	**0.0000**	**4,454.7170**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0856	1.3684	2.3552	4.0600e-003		7.1100e-003	7.1100e-003		7.1100e-003	7.1100e-003	0.0000	344.3475	344.3475	0.0138	0.0000	344.6929
Total	**0.0856**	**1.3684**	**2.3552**	**4.0600e-003**		**7.1100e-003**	**7.1100e-003**		**7.1100e-003**	**7.1100e-003**	**0.0000**	**344.3475**	**344.3475**	**0.0138**	**0.0000**	**344.6929**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1926	7.5460	1.2679	0.0261	0.6432	7.0600e-003	0.6502	0.1858	6.7400e-003	0.1925	0.0000	2,474.0333	2,474.0333	0.2241	0.0000	2,479.6349
Worker	0.7302	0.4201	5.0154	0.0218	3.4168	0.0128	3.4296	0.9076	0.0117	0.9194	0.0000	1,974.3488	1,974.3488	0.0293	0.0000	1,975.0821
Total	**0.9228**	**7.9661**	**6.2833**	**0.0479**	**4.0600**	**0.0198**	**4.0798**	**1.0934**	**0.0185**	**1.1119**	**0.0000**	**4,448.3821**	**4,448.3821**	**0.2534**	**0.0000**	**4,454.7170**

3.6 Building Construction - 2033

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7193	341.7193	0.0137	0.0000	342.0621
Total	**0.1702**	**1.0315**	**2.1004**	**4.0200e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**341.7193**	**341.7193**	**0.0137**	**0.0000**	**342.0621**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1903	7.4508	1.2470	0.0259	0.6383	6.9500e-003	0.6452	0.1843	6.6400e-003	0.1910	0.0000	2,453.1390	2,453.1390	0.2231	0.0000	2,458.7175
Worker	0.6669	0.3794	4.6679	0.0212	3.3907	0.0118	3.4025	0.9007	0.0109	0.9116	0.0000	1,923.1753	1,923.1753	0.0263	0.0000	1,923.8337
Total	**0.8572**	**7.8302**	**5.9149**	**0.0471**	**4.0290**	**0.0188**	**4.0477**	**1.0850**	**0.0175**	**1.1025**	**0.0000**	**4,376.3143**	**4,376.3143**	**0.2495**	**0.0000**	**4,382.5512**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0850	1.3580	2.3372	4.0200e-003		7.0600e-003	7.0600e-003		7.0600e-003	7.0600e-003	0.0000	341.7189	341.7189	0.0137	0.0000	342.0617
Total	**0.0850**	**1.3580**	**2.3372**	**4.0200e-003**		**7.0600e-003**	**7.0600e-003**		**7.0600e-003**	**7.0600e-003**	**0.0000**	**341.7189**	**341.7189**	**0.0137**	**0.0000**	**342.0617**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1903	7.4508	1.2470	0.0259	0.6383	6.9500e-003	0.6452	0.1843	6.6400e-003	0.1910	0.0000	2,453.1390	2,453.1390	0.2231	0.0000	2,458.7175
Worker	0.6669	0.3794	4.6679	0.0212	3.3907	0.0118	3.4025	0.9007	0.0109	0.9116	0.0000	1,923.1753	1,923.1753	0.0263	0.0000	1,923.8337
Total	**0.8572**	**7.8302**	**5.9149**	**0.0471**	**4.0290**	**0.0188**	**4.0477**	**1.0850**	**0.0175**	**1.1025**	**0.0000**	**4,376.3143**	**4,376.3143**	**0.2495**	**0.0000**	**4,382.5512**

3.6 Building Construction - 2034

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7193	341.7193	0.0137	0.0000	342.0621
Total	**0.1702**	**1.0315**	**2.1004**	**4.0200e-003**		**0.0193**	**0.0193**		**0.0193**	**0.0193**	**0.0000**	**341.7193**	**341.7193**	**0.0137**	**0.0000**	**342.0621**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1896	7.4177	1.2374	0.0259	0.6383	6.8900e-003	0.6451	0.1843	6.5800e-003	0.1909	0.0000	2,452.2859	2,452.2859	0.2231	0.0000	2,457.8644
Worker	0.6215	0.3503	4.3911	0.0209	3.3907	0.0110	3.4017	0.9007	0.0101	0.9108	0.0000	1,891.8871	1,891.8871	0.0239	0.0000	1,892.4845
Total	**0.8111**	**7.7681**	**5.6285**	**0.0467**	**4.0290**	**0.0179**	**4.0469**	**1.0850**	**0.0167**	**1.1018**	**0.0000**	**4,344.1731**	**4,344.1731**	**0.2470**	**0.0000**	**4,350.3489**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0850	1.3580	2.3372	4.0200e-003		7.0600e-003	7.0600e-003		7.0600e-003	7.0600e-003	0.0000	341.7189	341.7189	0.0137	0.0000	342.0617
Total	**0.0850**	**1.3580**	**2.3372**	**4.0200e-003**		**7.0600e-003**	**7.0600e-003**		**7.0600e-003**	**7.0600e-003**	**0.0000**	**341.7189**	**341.7189**	**0.0137**	**0.0000**	**342.0617**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1896	7.4177	1.2374	0.0259	0.6383	6.8900e-003	0.6451	0.1843	6.5800e-003	0.1909	0.0000	2,452.2859	2,452.2859	0.2231	0.0000	2,457.8644
Worker	0.6215	0.3503	4.3911	0.0209	3.3907	0.0110	3.4017	0.9007	0.0101	0.9108	0.0000	1,891.8871	1,891.8871	0.0239	0.0000	1,892.4845
Total	**0.8111**	**7.7681**	**5.6285**	**0.0467**	**4.0290**	**0.0179**	**4.0469**	**1.0850**	**0.0167**	**1.1018**	**0.0000**	**4,344.1731**	**4,344.1731**	**0.2470**	**0.0000**	**4,350.3489**

3.6 Building Construction - 2035

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1588	0.9346	2.1034	4.0400e-003		0.0118	0.0118		0.0118	0.0118	0.0000	343.0336	343.0336	0.0128	0.0000	343.3530
Total	**0.1588**	**0.9346**	**2.1034**	**4.0400e-003**		**0.0118**	**0.0118**		**0.0118**	**0.0118**	**0.0000**	**343.0336**	**343.0336**	**0.0128**	**0.0000**	**343.3530**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1898	7.4175	1.2344	0.0260	0.6407	6.8700e-003	0.6476	0.1851	6.5600e-003	0.1916	0.0000	2,461.4037	2,461.4037	0.2244	0.0000	2,467.0144
Worker	0.5854	0.3300	4.1786	0.0207	3.4038	0.0104	3.4141	0.9042	9.5300e-003	0.9137	0.0000	1,872.3095	1,872.3095	0.0220	0.0000	1,872.8590
Total	**0.7752**	**7.7474**	**5.4130**	**0.0466**	**4.0445**	**0.0172**	**4.0617**	**1.0892**	**0.0161**	**1.1053**	**0.0000**	**4,333.7132**	**4,333.7132**	**0.2464**	**0.0000**	**4,339.8734**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0833	1.3572	2.3444	4.0400e-003		5.9900e-003	5.9900e-003		5.9900e-003	5.9900e-003	0.0000	343.0332	343.0332	0.0128	0.0000	343.3526
Total	**0.0833**	**1.3572**	**2.3444**	**4.0400e-003**		**5.9900e-003**	**5.9900e-003**		**5.9900e-003**	**5.9900e-003**	**0.0000**	**343.0332**	**343.0332**	**0.0128**	**0.0000**	**343.3526**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1898	7.4175	1.2344	0.0260	0.6407	6.8700e-003	0.6476	0.1851	6.5600e-003	0.1916	0.0000	2,461.4037	2,461.4037	0.2244	0.0000	2,467.0144
Worker	0.5854	0.3300	4.1786	0.0207	3.4038	0.0104	3.4141	0.9042	9.5300e-003	0.9137	0.0000	1,872.3095	1,872.3095	0.0220	0.0000	1,872.8590
Total	**0.7752**	**7.7474**	**5.4130**	**0.0466**	**4.0445**	**0.0172**	**4.0617**	**1.0892**	**0.0161**	**1.1053**	**0.0000**	**4,333.7132**	**4,333.7132**	**0.2464**	**0.0000**	**4,339.8734**

3.6 Building Construction - 2036

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1016	0.5980	1.3458	2.5800e-003		7.5500e-003	7.5500e-003		7.5500e-003	7.5500e-003	0.0000	219.4890	219.4890	8.1700e-003	0.0000	219.6933
Total	**0.1016**	**0.5980**	**1.3458**	**2.5800e-003**		**7.5500e-003**	**7.5500e-003**		**7.5500e-003**	**7.5500e-003**	**0.0000**	**219.4890**	**219.4890**	**8.1700e-003**	**0.0000**	**219.6933**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1214	4.7461	0.7898	0.0166	0.4100	4.4000e-003	0.4144	0.1184	4.2000e-003	0.1226	0.0000	1,574.9211	1,574.9211	0.1436	0.0000	1,578.5111
Worker	0.3746	0.2111	2.6737	0.0132	2.1779	6.6300e-003	2.1845	0.5785	6.1000e-003	0.5846	0.0000	1,197.9911	1,197.9911	0.0141	0.0000	1,198.3428
Total	**0.4960**	**4.9572**	**3.4635**	**0.0298**	**2.5878**	**0.0110**	**2.5989**	**0.6969**	**0.0103**	**0.7072**	**0.0000**	**2,772.9123**	**2,772.9123**	**0.1577**	**0.0000**	**2,776.8539**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0533	0.8684	1.5001	2.5800e-003		3.8300e-003	3.8300e-003		3.8300e-003	3.8300e-003	0.0000	219.4887	219.4887	8.1700e-003	0.0000	219.6931
Total	**0.0533**	**0.8684**	**1.5001**	**2.5800e-003**		**3.8300e-003**	**3.8300e-003**		**3.8300e-003**	**3.8300e-003**	**0.0000**	**219.4887**	**219.4887**	**8.1700e-003**	**0.0000**	**219.6931**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1214	4.7461	0.7898	0.0166	0.4100	4.4000e-003	0.4144	0.1184	4.2000e-003	0.1226	0.0000	1,574.9211	1,574.9211	0.1436	0.0000	1,578.5111
Worker	0.3746	0.2111	2.6737	0.0132	2.1779	6.6300e-003	2.1845	0.5785	6.1000e-003	0.5846	0.0000	1,197.9911	1,197.9911	0.0141	0.0000	1,198.3428
Total	**0.4960**	**4.9572**	**3.4635**	**0.0298**	**2.5878**	**0.0110**	**2.5989**	**0.6969**	**0.0103**	**0.7072**	**0.0000**	**2,772.9123**	**2,772.9123**	**0.1577**	**0.0000**	**2,776.8539**

3.7 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1156	1.1144	1.7112	2.6700e-003		0.0548	0.0548		0.0504	0.0504	0.0000	234.3104	234.3104	0.0758	0.0000	236.2049
Paving	0.0793					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1949**	**1.1144**	**1.7112**	**2.6700e-003**		**0.0548**	**0.0548**		**0.0504**	**0.0504**	**0.0000**	**234.3104**	**234.3104**	**0.0758**	**0.0000**	**236.2049**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0900e-003	5.7600e-003	0.0569	1.8000e-004	0.0219	1.3000e-004	0.0221	5.8200e-003	1.2000e-004	5.9400e-003	0.0000	15.9786	15.9786	4.1000e-004	0.0000	15.9889
Total	**8.0900e-003**	**5.7600e-003**	**0.0569**	**1.8000e-004**	**0.0219**	**1.3000e-004**	**0.0221**	**5.8200e-003**	**1.2000e-004**	**5.9400e-003**	**0.0000**	**15.9786**	**15.9786**	**4.1000e-004**	**0.0000**	**15.9889**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0391	1.1746	2.0236	2.6700e-003		4.3800e-003	4.3800e-003		4.3800e-003	4.3800e-003	0.0000	234.3101	234.3101	0.0758	0.0000	236.2047
Paving	0.0793					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1184**	**1.1746**	**2.0236**	**2.6700e-003**		**4.3800e-003**	**4.3800e-003**		**4.3800e-003**	**4.3800e-003**	**0.0000**	**234.3101**	**234.3101**	**0.0758**	**0.0000**	**236.2047**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0900e-003	5.7600e-003	0.0569	1.8000e-004	0.0219	1.3000e-004	0.0221	5.8200e-003	1.2000e-004	5.9400e-003	0.0000	15.9786	15.9786	4.1000e-004	0.0000	15.9889
Total	**8.0900e-003**	**5.7600e-003**	**0.0569**	**1.8000e-004**	**0.0219**	**1.3000e-004**	**0.0221**	**5.8200e-003**	**1.2000e-004**	**5.9400e-003**	**0.0000**	**15.9786**	**15.9786**	**4.1000e-004**	**0.0000**	**15.9889**

3.8 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	5.9602					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0212	0.1426	0.2118	3.5000e-004		7.1300e-003	7.1300e-003		7.1300e-003	7.1300e-003	0.0000	29.8731	29.8731	1.6800e-003	0.0000	29.9151
Total	**5.9814**	**0.1426**	**0.2118**	**3.5000e-004**		**7.1300e-003**	**7.1300e-003**		**7.1300e-003**	**7.1300e-003**	**0.0000**	**29.8731**	**29.8731**	**1.6800e-003**	**0.0000**	**29.9151**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2255	0.1604	1.5841	4.9200e-003	0.6109	3.5400e-003	0.6145	0.1623	3.2600e-003	0.1655	0.0000	445.2694	445.2694	0.0116	0.0000	445.5585
Total	**0.2255**	**0.1604**	**1.5841**	**4.9200e-003**	**0.6109**	**3.5400e-003**	**0.6145**	**0.1623**	**3.2600e-003**	**0.1655**	**0.0000**	**445.2694**	**445.2694**	**0.0116**	**0.0000**	**445.5585**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	5.9602					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.3700e-003	0.1240	0.2144	3.5000e-004		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	29.8730	29.8730	1.6800e-003	0.0000	29.9151
Total	**5.9666**	**0.1240**	**0.2144**	**3.5000e-004**		**4.6000e-004**	**4.6000e-004**		**4.6000e-004**	**4.6000e-004**	**0.0000**	**29.8730**	**29.8730**	**1.6800e-003**	**0.0000**	**29.9151**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2255	0.1604	1.5841	4.9200e-003	0.6109	3.5400e-003	0.6145	0.1623	3.2600e-003	0.1655	0.0000	445.2694	445.2694	0.0116	0.0000	445.5585
Total	**0.2255**	**0.1604**	**1.5841**	**4.9200e-003**	**0.6109**	**3.5400e-003**	**0.6145**	**0.1623**	**3.2600e-003**	**0.1655**	**0.0000**	**445.2694**	**445.2694**	**0.0116**	**0.0000**	**445.5585**

Construction Phase 2 - Mitigated

Kings County, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.06	-0.00	0.00	0.63	0.64	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	0.07	-0.01	-0.03	0.00	0.53	0.52	0.00	0.00	0.00	0.00	0.00	0.00
Demolition	0.71	0.33	-0.24	0.00	0.93	0.93	0.00	0.00	0.00	0.00	0.00	0.00
Grading	0.66	0.38	-0.33	0.00	0.92	0.91	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Demolition Debris Reprocessing	0.65	-0.20	-1.42	0.00	0.77	0.77	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.38	-0.05	-0.18	0.00	0.92	0.91	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	0.71	0.55	-0.24	0.00	0.95	0.94	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Air Compressors	Diesel	Tier 4 Interim	1	1	No Change	0.00
Concrete/Industrial Saws	Diesel	Tier 4 Interim	1	1	No Change	0.00
Cranes	Diesel	Tier 4 Interim	1	1	No Change	0.00
Crushing/Proc. Equipment	Diesel	Tier 4 Interim	1	1	No Change	0.00
Excavators	Diesel	Tier 4 Interim	5	5	No Change	0.00
Forklifts	Diesel	Tier 4 Interim	3	3	No Change	0.00
Generator Sets	Diesel	Tier 4 Interim	1	1	No Change	0.00
Graders	Diesel	Tier 4 Interim	1	1	No Change	0.00

Pavers	Diesel	Tier 4 Interim	2	2	No Change	0.00
Paving Equipment	Diesel	Tier 4 Interim	2	2	No Change	0.00
Rollers	Diesel	Tier 4 Interim	2	2	No Change	0.00
Rubber Tired Dozers	Diesel	Tier 4 Interim	6	6	No Change	0.00
Scrapers	Diesel	Tier 4 Interim	2	2	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	9	9	No Change	0.00
Welders	Diesel	No Change	0	1	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Unmitigated tons/yr						Unmitigated mt/yr					
Air Compressors	2.11500E-002	1.42600E-001	2.11780E-001	3.50000E-004	7.13000E-003	7.13000E-003	0.00000E+000	2.98731E+001	2.98731E+001	1.68000E-003	0.00000E+000	2.99151E+001
Concrete/Industrial Saws	3.13000E-003	2.41400E-002	3.65000E-002	6.00000E-005	1.11000E-003	1.11000E-003	0.00000E+000	5.37656E+000	5.37656E+000	2.60000E-004	0.00000E+000	5.38295E+000
Cranes	4.12380E-001	2.81561E+000	2.22008E+000	9.33000E-003	1.13250E-001	1.05770E-001	0.00000E+000	8.08893E+002	8.08893E+002	1.28180E-001	0.00000E+000	8.12097E+002
Crushing/Proc. Equipment	1.03700E-002	4.81500E-002	4.74800E-002	2.20000E-004	1.56000E-003	1.56000E-003	0.00000E+000	2.30502E+001	2.30502E+001	8.50000E-004	0.00000E+000	2.30715E+001
Excavators	6.40000E-002	4.92700E-001	1.17503E+000	1.86000E-003	2.42500E-002	2.23100E-002	0.00000E+000	1.63384E+002	1.63384E+002	5.28400E-002	0.00000E+000	1.64705E+002
Forklifts	4.36180E-001	3.20447E+000	5.76145E+000	8.48000E-003	1.21880E-001	1.13420E-001	0.00000E+000	7.35941E+002	7.35941E+002	1.20340E-001	0.00000E+000	7.38949E+002
Generator Sets	3.74870E-001	3.41307E+000	6.01279E+000	1.08500E-002	1.04750E-001	1.04750E-001	0.00000E+000	9.32027E+002	9.32027E+002	2.99700E-002	0.00000E+000	9.32776E+002
Graders	5.70300E-002	6.61920E-001	2.71190E-001	1.09000E-003	2.14400E-002	1.97200E-002	0.00000E+000	9.58664E+001	9.58664E+001	3.10100E-002	0.00000E+000	9.66415E+001
Pavers	4.29700E-002	4.07590E-001	6.76960E-001	1.10000E-003	1.90300E-002	1.75100E-002	0.00000E+000	9.66224E+001	9.66224E+001	3.12500E-002	0.00000E+000	9.74036E+001
Paving Equipment	3.85500E-002	3.50090E-001	6.01340E-001	9.50000E-004	1.69100E-002	1.55500E-002	0.00000E+000	8.37377E+001	8.37377E+001	2.70800E-002	0.00000E+000	8.44147E+001
Rollers	3.41000E-002	3.56690E-001	4.32910E-001	6.10000E-004	1.88800E-002	1.73700E-002	0.00000E+000	5.39504E+001	5.39504E+001	1.74500E-002	0.00000E+000	5.43866E+001
Rubber Tired Dozers	2.60440E-001	2.67025E+000	1.17588E+000	3.22000E-003	1.20020E-001	1.10420E-001	0.00000E+000	2.82834E+002	2.82834E+002	9.14700E-002	0.00000E+000	2.85121E+002
Scrapers	2.44820E-001	2.44949E+000	1.92923E+000	5.01000E-003	9.67500E-002	8.90100E-002	0.00000E+000	4.39747E+002	4.39747E+002	1.42220E-001	0.00000E+000	4.43302E+002
Tractors/Loaders/Backhoes	7.45580E-001	5.92423E+000	1.12251E+001	1.68700E-002	1.93160E-001	1.80880E-001	0.00000E+000	1.46542E+003	1.46542E+003	2.65020E-001	0.00000E+000	1.47204E+003
Welders	3.12790E-001	2.08086E+000	2.67886E+000	4.21000E-003	4.53100E-002	4.53100E-002	0.00000E+000	3.10376E+002	3.10376E+002	2.53700E-002	0.00000E+000	3.11010E+002

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Mitigated tons/yr						Mitigated mt/yr					
Air Compressors	6.37000E-003	1.24000E-001	2.14390E-001	3.50000E-004	4.60000E-004	4.60000E-004	0.00000E+000	2.98730E+001	2.98730E+001	1.68000E-003	0.00000E+000	2.99151E+001
Concrete/Industrial Saws	1.15000E-003	2.23200E-002	3.85900E-002	6.00000E-005	8.00000E-005	8.00000E-005	0.00000E+000	5.37656E+000	5.37656E+000	2.60000E-004	0.00000E+000	5.38294E+000
Cranes	1.36380E-001	2.19914E+000	4.43237E+000	9.33000E-003	1.36400E-002	1.36400E-002	0.00000E+000	8.08892E+002	8.08892E+002	1.28180E-001	0.00000E+000	8.12096E+002
Crushing/Proc. Equipment	3.58000E-003	5.76800E-002	1.16250E-001	2.20000E-004	3.60000E-004	3.60000E-004	0.00000E+000	2.30502E+001	2.30502E+001	8.50000E-004	0.00000E+000	2.30715E+001
Excavators	2.28700E-002	8.19610E-001	1.41049E+000	1.86000E-003	3.05000E-003	3.05000E-003	0.00000E+000	1.63384E+002	1.63384E+002	5.28400E-002	0.00000E+000	1.64705E+002
Forklifts	1.70840E-001	3.32353E+000	5.74629E+000	8.48000E-003	1.24200E-002	1.24200E-002	0.00000E+000	7.35940E+002	7.35940E+002	1.20340E-001	0.00000E+000	7.38948E+002
Generator Sets	1.98860E-001	3.86874E+000	6.68894E+000	1.08500E-002	1.44600E-002	1.44600E-002	0.00000E+000	9.32026E+002	9.32026E+002	2.99700E-002	0.00000E+000	9.32775E+002
Graders	1.78500E-002	2.87820E-001	5.80100E-001	1.09000E-003	1.78000E-003	1.78000E-003	0.00000E+000	9.58663E+001	9.58663E+001	3.10100E-002	0.00000E+000	9.66414E+001
Pavers	1.35200E-002	4.84470E-001	8.33750E-001	1.10000E-003	1.80000E-003	1.80000E-003	0.00000E+000	9.66223E+001	9.66223E+001	3.12500E-002	0.00000E+000	9.74035E+001
Paving Equipment	1.17700E-002	4.21650E-001	7.25630E-001	9.50000E-004	1.57000E-003	1.57000E-003	0.00000E+000	8.37376E+001	8.37376E+001	2.70800E-002	0.00000E+000	8.44146E+001
Rollers	1.38000E-002	2.68490E-001	4.64210E-001	6.10000E-004	1.00000E-003	1.00000E-003	0.00000E+000	5.39503E+001	5.39503E+001	1.74500E-002	0.00000E+000	5.43865E+001
Rubber Tired Dozers	5.25500E-002	8.47450E-001	1.70803E+000	3.22000E-003	5.26000E-003	5.26000E-003	0.00000E+000	2.82834E+002	2.82834E+002	9.14700E-002	0.00000E+000	2.85121E+002
Scrapers	8.20200E-002	1.32262E+000	2.66574E+000	5.01000E-003	8.20000E-003	8.20000E-003	0.00000E+000	4.39746E+002	4.39746E+002	1.42220E-001	0.00000E+000	4.43302E+002
Tractors/Loaders/Backhoes	3.42200E-001	6.65735E+000	1.15104E+001	1.68700E-002	2.48900E-002	2.48900E-002	0.00000E+000	1.46542E+003	1.46542E+003	2.65020E-001	0.00000E+000	1.47204E+003
Welders	3.12790E-001	2.08086E+000	2.67886E+000	4.21000E-003	4.53100E-002	4.53100E-002	0.00000E+000	3.10375E+002	3.10375E+002	2.53700E-002	0.00000E+000	3.11010E+002

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Percent Reduction											
Air Compressors	6.98818E-001	1.30435E-001	-1.23241E-002	0.00000E+000	9.35484E-001	9.35484E-001	0.00000E+000	1.33900E-006	1.33900E-006	0.00000E+000	0.00000E+000	1.00284E-006
Concrete/Industrial Saws	6.32588E-001	7.53935E-002	-5.72603E-002	0.00000E+000	9.27928E-001	9.27928E-001	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.85772E-006
Cranes	6.69286E-001	2.18947E-001	-9.96491E-001	0.00000E+000	8.79558E-001	8.71041E-001	0.00000E+000	1.18681E-006	1.18681E-006	0.00000E+000	0.00000E+000	1.18212E-006
Crushing/Proc. Equipment	6.54773E-001	-1.97923E-001	-1.44840E+000	0.00000E+000	7.69231E-001	7.69231E-001	0.00000E+000	1.30151E-006	1.30151E-006	0.00000E+000	0.00000E+000	1.30031E-006
Excavators	6.42656E-001	-6.63507E-001	-2.00386E-001	0.00000E+000	8.74227E-001	8.63290E-001	0.00000E+000	1.16290E-006	1.16290E-006	0.00000E+000	0.00000E+000	1.21429E-006
Forklifts	6.08327E-001	-3.71544E-002	2.63128E-003	0.00000E+000	8.98096E-001	8.90496E-001	0.00000E+000	1.19575E-006	1.19575E-006	0.00000E+000	0.00000E+000	1.19088E-006
Generator Sets	4.69523E-001	-1.33507E-001	-1.12452E-001	0.00000E+000	8.61957E-001	8.61957E-001	0.00000E+000	1.19095E-006	1.19095E-006	0.00000E+000	0.00000E+000	1.19000E-006

Graders	6.87007E-001	5.65174E-001	-1.13909E+000	0.00000E+000	9.16978E-001	9.09736E-001	0.00000E+000	1.25174E-006	1.25174E-006	0.00000E+000	0.00000E+000	1.24170E-006
Pavers	6.85362E-001	-1.88621E-001	-2.31609E-001	0.00000E+000	9.05413E-001	8.97202E-001	0.00000E+000	1.24195E-006	1.24195E-006	0.00000E+000	0.00000E+000	1.23199E-006
Paving Equipment	6.94682E-001	-2.04405E-001	-2.06688E-001	0.00000E+000	9.07156E-001	8.99035E-001	0.00000E+000	1.19421E-006	1.19421E-006	0.00000E+000	0.00000E+000	1.18463E-006
Rollers	5.95308E-001	2.47274E-001	-7.23014E-002	0.00000E+000	9.47034E-001	9.42429E-001	0.00000E+000	1.11213E-006	1.11213E-006	0.00000E+000	0.00000E+000	1.10321E-006
Rubber Tired Dozers	7.98226E-001	6.82633E-001	-4.52555E-001	0.00000E+000	9.56174E-001	9.52364E-001	0.00000E+000	1.20212E-006	1.20212E-006	0.00000E+000	0.00000E+000	1.15740E-006
Scrapers	6.64978E-001	4.60043E-001	-3.81764E-001	0.00000E+000	9.15245E-001	9.07876E-001	0.00000E+000	1.18250E-006	1.18250E-006	0.00000E+000	0.00000E+000	1.19557E-006
Tractors/Loaders/Backhoes	5.41028E-001	-1.23749E-001	-2.54154E-002	0.00000E+000	8.71143E-001	8.62395E-001	0.00000E+000	1.19420E-006	1.19420E-006	0.00000E+000	0.00000E+000	1.18882E-006
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.19210E-006	1.19210E-006	0.00000E+000	0.00000E+000	1.18967E-006

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input		Mitigation Input		Mitigation Input	
No	Soil Stabilizer for unpaved Roads	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
No	Water Exposed Area	PM10 Reduction	0.00	PM2.5 Reduction	0.00	Frequency (per day)	
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	0.00		
No	Clean Paved Road	% PM Reduction	0.00				

		Unmitigated		Mitigated		Percent Reduction	
Phase	Source	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Architectural Coating	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating	Roads	0.61	0.16	0.61	0.16	0.00	0.00
Building Construction	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	Roads	51.11	13.76	51.11	13.76	0.00	0.00
Demolition	Fugitive Dust	0.01	0.00	0.01	0.00	0.00	0.00
Demolition	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Grading	Fugitive Dust	1.87	0.64	1.87	0.64	0.00	0.00

Grading	Roads	0.05	0.01	0.05	0.01	0.00	0.00
Onsite Demolition Debris Reprocessing	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Onsite Demolition Debris Reprocessing	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Paving	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Paving	Roads	0.02	0.01	0.02	0.01	0.00	0.00
Site Preparation	Fugitive Dust	1.16	0.64	1.16	0.64	0.00	0.00
Site Preparation	Roads	0.02	0.00	0.02	0.00	0.00	0.00

CalEEMod Output: Phase 1 Operation – Proposed Project (Main)

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Phase 1 Operation Year 2023 - Kings County, Annual

Phase 1 Operation Year 2023

Kings County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	494.02	1000sqft	11.34	494,021.30	0
Other Non-Asphalt Surfaces	354.34	1000sqft	14.33	0.00	0
Parking Lot	5.75	Acre	5.75	250,470.00	0
Fast Food Restaurant with Drive Thru	9.85	1000sqft	0.23	9,847.00	0
High Turnover (Sit Down Restaurant)	10.03	1000sqft	0.23	10,026.00	0
Motel	187.00	Room	0.61	106,131.00	0
Convenience Market With Gas Pumps	23.26	1000sqft	0.53	23,261.00	0
Regional Shopping Center	11.98	1000sqft	0.28	11,980.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	37
Climate Zone	3			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	206.29	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See assumptions file

Land Use - See assumptions file

Construction Phase -

Vehicle Trips - See assumptions file.

Area Coating - See assumptions file.

Water And Wastewater - See assumptions file.

Solid Waste - See assumptions file.

Energy Mitigation -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	44669	15208
tblFleetMix	HHD	0.17	0.00
tblFleetMix	HHD	0.17	0.00
tblFleetMix	HHD	0.17	0.00
tblFleetMix	HHD	0.17	0.00
tblFleetMix	HHD	0.17	0.00
tblFleetMix	LDA	0.50	0.62
tblFleetMix	LDA	0.50	0.62
tblFleetMix	LDA	0.50	0.62
tblFleetMix	LDA	0.50	0.62
tblFleetMix	LDA	0.50	0.62
tblFleetMix	LDT1	0.03	0.03
tblFleetMix	LDT1	0.03	0.03
tblFleetMix	LDT1	0.03	0.03
tblFleetMix	LDT1	0.03	0.03

tblFleetMix	LDT1	0.03	0.03
tblFleetMix	LDT2	0.15	0.18
tblFleetMix	LDT2	0.15	0.18
tblFleetMix	LDT2	0.15	0.18
tblFleetMix	LDT2	0.15	0.18
tblFleetMix	LDT2	0.15	0.18
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD2	4.2260e-003	0.00
tblFleetMix	LHD2	4.2260e-003	0.00
tblFleetMix	LHD2	4.2260e-003	0.00
tblFleetMix	LHD2	4.2260e-003	0.00
tblFleetMix	LHD2	4.2260e-003	0.00
tblFleetMix	MCY	5.5480e-003	6.8190e-003
tblFleetMix	MCY	5.5480e-003	6.8190e-003
tblFleetMix	MCY	5.5480e-003	6.8190e-003
tblFleetMix	MCY	5.5480e-003	6.8190e-003
tblFleetMix	MCY	5.5480e-003	6.8190e-003
tblFleetMix	MDV	0.11	0.14
tblFleetMix	MDV	0.11	0.14
tblFleetMix	MDV	0.11	0.14
tblFleetMix	MDV	0.11	0.14
tblFleetMix	MDV	0.11	0.14
tblFleetMix	MH	6.4800e-004	0.00

tblFleetMix	MH	6.4800e-004	0.00
tblFleetMix	MH	6.4800e-004	0.00
tblFleetMix	MH	6.4800e-004	0.00
tblFleetMix	MH	6.4800e-004	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	1.7100e-003	0.00
tblFleetMix	OBUS	1.7100e-003	0.00
tblFleetMix	OBUS	1.7100e-003	0.00
tblFleetMix	OBUS	1.7100e-003	0.00
tblFleetMix	OBUS	1.7100e-003	0.00
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tblFleetMix	SBUS	9.2200e-004	0.00
tblFleetMix	SBUS	9.2200e-004	0.00
tblFleetMix	SBUS	9.2200e-004	0.00
tblFleetMix	SBUS	9.2200e-004	0.00
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tblFleetMix	UBUS	1.6950e-003	0.00
tblFleetMix	UBUS	1.6950e-003	0.00
tblFleetMix	UBUS	1.6950e-003	0.00
tblLandUse	LandUseSquareFeet	494,020.00	494,021.30
tblLandUse	LandUseSquareFeet	354,340.00	0.00
tblLandUse	LandUseSquareFeet	9,850.00	9,847.00

tblLandUse	LandUseSquareFeet	10,030.00	10,026.00
tblLandUse	LandUseSquareFeet	366,557.40	106,131.00
tblLandUse	LandUseSquareFeet	23,260.00	23,261.00
tblLandUse	LotAcreage	8.13	14.33
tblLandUse	LotAcreage	8.41	0.61
tblProjectCharacteristics	CO2IntensityFactor	641.35	206.29
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblSolidWaste	SolidWasteGenerationRate	69.90	38.14
tblSolidWaste	SolidWasteGenerationRate	113.46	8.99
tblSolidWaste	SolidWasteGenerationRate	119.36	9.15
tblSolidWaste	SolidWasteGenerationRate	102.38	68.26
tblSolidWaste	SolidWasteGenerationRate	12.58	13.14
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tblVehicleEF	HHD	1.94	7.73
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tblVehicleEF	HHD	0.66	1.9870e-003
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tblVehicleEF	HHD	0.04	0.04

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tblVehicleEF	HHD	2.8010e-003	2.2880e-003
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tblVehicleEF	HHD	8.9710e-003	8.9800e-003
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tblVehicleEF	HHD	1.7000e-005	1.0000e-006
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tblVehicleEF	HHD	7.4000e-005	3.9300e-004
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tblVehicleEF	HHD	7.4000e-005	3.9300e-004
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tblVehicleEF	HHD	1.58	0.03
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tblVehicleEF	HHD	0.04	0.04
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tblVehicleEF	HHD	0.06	0.01

tblVehicleEF	HHD	0.01	0.01
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tblVehicleEF	HHD	1.6000e-005	0.00
tblVehicleEF	HHD	3.4070e-003	2.6410e-003

tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.9710e-003	8.9770e-003
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tblVehicleEF	HHD	1.4000e-005	0.00
tblVehicleEF	HHD	1.0000e-005	1.0000e-006
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tblVehicleEF	HHD	6.0000e-006	0.00
tblVehicleEF	HHD	0.08	0.02
tblVehicleEF	HHD	8.1000e-005	4.2300e-004
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tblVehicleEF	HHD	0.05	0.01
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	3.3000e-005	0.00
tblVehicleEF	HHD	1.0000e-005	1.0000e-006
tblVehicleEF	HHD	1.0930e-003	8.9000e-005
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tblVehicleEF	LDA	0.01	0.01
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tblVehicleEF	LDA	54.81	51.29
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tblVehicleEF	LDA	0.06	0.09
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tblVehicleEF	LDA	5.6590e-003	0.05
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tblVehicleEF	LDA	225.18	244.44
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tblVehicleEF	LDA	0.08	0.19

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tblVehicleEF	LDA	8.6120e-003	6.7510e-003
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tblVehicleEF	LDA	0.01	0.02
tblVehicleEF	LDA	0.08	0.09
tblVehicleEF	LDA	8.9610e-003	0.01
tblVehicleEF	LDA	0.01	9.8180e-003
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tblVehicleEF	LDA	0.08	0.27
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tblVehicleEF	LDT1	0.02	0.08
tblVehicleEF	LDT1	1.52	1.24
tblVehicleEF	LDT1	3.50	2.35
tblVehicleEF	LDT1	297.25	303.73
tblVehicleEF	LDT1	68.75	63.28
tblVehicleEF	LDT1	0.17	0.11
tblVehicleEF	LDT1	0.21	0.27
tblVehicleEF	LDT1	2.5230e-003	1.9880e-003

tblVehicleEF	LDT1	3.4810e-003	2.6110e-003
tblVehicleEF	LDT1	2.3240e-003	1.8300e-003
tblVehicleEF	LDT1	3.2010e-003	2.4010e-003
tblVehicleEF	LDT1	0.18	0.18
tblVehicleEF	LDT1	0.31	0.24
tblVehicleEF	LDT1	0.12	0.12
tblVehicleEF	LDT1	0.04	0.03
tblVehicleEF	LDT1	0.21	0.82
tblVehicleEF	LDT1	0.25	0.38
tblVehicleEF	LDT1	2.9920e-003	3.0060e-003
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tblVehicleEF	LDT1	0.18	0.18
tblVehicleEF	LDT1	0.31	0.24
tblVehicleEF	LDT1	0.12	0.12
tblVehicleEF	LDT1	0.05	0.04
tblVehicleEF	LDT1	0.21	0.82
tblVehicleEF	LDT1	0.27	0.42
tblVehicleEF	LDT1	0.02	6.8310e-003
tblVehicleEF	LDT1	0.02	0.06
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tblVehicleEF	LDT1	2.89	1.96
tblVehicleEF	LDT1	325.69	329.76
tblVehicleEF	LDT1	68.75	62.44
tblVehicleEF	LDT1	0.16	0.10
tblVehicleEF	LDT1	0.20	0.25
tblVehicleEF	LDT1	2.5230e-003	1.9880e-003
tblVehicleEF	LDT1	3.4810e-003	2.6110e-003

tblVehicleEF	LDT1	2.3240e-003	1.8300e-003
tblVehicleEF	LDT1	3.2010e-003	2.4010e-003
tblVehicleEF	LDT1	0.43	0.44
tblVehicleEF	LDT1	0.39	0.31
tblVehicleEF	LDT1	0.25	0.26
tblVehicleEF	LDT1	0.04	0.03
tblVehicleEF	LDT1	0.20	0.80
tblVehicleEF	LDT1	0.20	0.31
tblVehicleEF	LDT1	3.2820e-003	3.2630e-003
tblVehicleEF	LDT1	7.3800e-004	6.1800e-004
tblVehicleEF	LDT1	0.43	0.44
tblVehicleEF	LDT1	0.39	0.31
tblVehicleEF	LDT1	0.25	0.26
tblVehicleEF	LDT1	0.06	0.04
tblVehicleEF	LDT1	0.20	0.80
tblVehicleEF	LDT1	0.22	0.35
tblVehicleEF	LDT1	0.01	5.5030e-003
tblVehicleEF	LDT1	0.02	0.09
tblVehicleEF	LDT1	1.42	1.15
tblVehicleEF	LDT1	4.36	2.92
tblVehicleEF	LDT1	285.64	293.14
tblVehicleEF	LDT1	68.75	64.43
tblVehicleEF	LDT1	0.19	0.12
tblVehicleEF	LDT1	0.24	0.30
tblVehicleEF	LDT1	2.5230e-003	1.9880e-003
tblVehicleEF	LDT1	3.4810e-003	2.6110e-003
tblVehicleEF	LDT1	2.3240e-003	1.8300e-003

tblVehicleEF	LDT1	3.2010e-003	2.4010e-003
tblVehicleEF	LDT1	0.05	0.05
tblVehicleEF	LDT1	0.31	0.24
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.03	0.02
tblVehicleEF	LDT1	0.25	0.99
tblVehicleEF	LDT1	0.30	0.45
tblVehicleEF	LDT1	2.8750e-003	2.9010e-003
tblVehicleEF	LDT1	7.6500e-004	6.3800e-004
tblVehicleEF	LDT1	0.05	0.05
tblVehicleEF	LDT1	0.31	0.24
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.05	0.04
tblVehicleEF	LDT1	0.25	0.99
tblVehicleEF	LDT1	0.33	0.50
tblVehicleEF	LDT2	6.8690e-003	3.9960e-003
tblVehicleEF	LDT2	8.2560e-003	0.07
tblVehicleEF	LDT2	0.80	0.91
tblVehicleEF	LDT2	1.68	2.73
tblVehicleEF	LDT2	335.98	325.01
tblVehicleEF	LDT2	77.55	68.18
tblVehicleEF	LDT2	0.10	0.09
tblVehicleEF	LDT2	0.15	0.29
tblVehicleEF	LDT2	1.6800e-003	1.4680e-003
tblVehicleEF	LDT2	2.4290e-003	1.9140e-003
tblVehicleEF	LDT2	1.5450e-003	1.3520e-003
tblVehicleEF	LDT2	2.2330e-003	1.7600e-003

tblVehicleEF	LDT2	0.07	0.11
tblVehicleEF	LDT2	0.13	0.15
tblVehicleEF	LDT2	0.05	0.09
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.08	0.51
tblVehicleEF	LDT2	0.11	0.33
tblVehicleEF	LDT2	3.3670e-003	3.2150e-003
tblVehicleEF	LDT2	8.0400e-004	6.7500e-004
tblVehicleEF	LDT2	0.07	0.11
tblVehicleEF	LDT2	0.13	0.15
tblVehicleEF	LDT2	0.05	0.09
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.08	0.51
tblVehicleEF	LDT2	0.12	0.36
tblVehicleEF	LDT2	7.8980e-003	4.6270e-003
tblVehicleEF	LDT2	6.8030e-003	0.06
tblVehicleEF	LDT2	1.00	1.13
tblVehicleEF	LDT2	1.39	2.27
tblVehicleEF	LDT2	368.77	350.35
tblVehicleEF	LDT2	77.55	67.27
tblVehicleEF	LDT2	0.09	0.08
tblVehicleEF	LDT2	0.14	0.27
tblVehicleEF	LDT2	1.6800e-003	1.4680e-003
tblVehicleEF	LDT2	2.4290e-003	1.9140e-003
tblVehicleEF	LDT2	1.5450e-003	1.3520e-003
tblVehicleEF	LDT2	2.2330e-003	1.7600e-003
tblVehicleEF	LDT2	0.17	0.26

tblVehicleEF	LDT2	0.15	0.18
tblVehicleEF	LDT2	0.11	0.18
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.08	0.49
tblVehicleEF	LDT2	0.09	0.28
tblVehicleEF	LDT2	3.6970e-003	3.4660e-003
tblVehicleEF	LDT2	7.9900e-004	6.6600e-004
tblVehicleEF	LDT2	0.17	0.26
tblVehicleEF	LDT2	0.15	0.18
tblVehicleEF	LDT2	0.11	0.18
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.08	0.49
tblVehicleEF	LDT2	0.10	0.30
tblVehicleEF	LDT2	6.4420e-003	3.6920e-003
tblVehicleEF	LDT2	9.9020e-003	0.08
tblVehicleEF	LDT2	0.74	0.84
tblVehicleEF	LDT2	2.08	3.39
tblVehicleEF	LDT2	322.59	314.70
tblVehicleEF	LDT2	77.55	69.43
tblVehicleEF	LDT2	0.10	0.09
tblVehicleEF	LDT2	0.16	0.32
tblVehicleEF	LDT2	1.6800e-003	1.4680e-003
tblVehicleEF	LDT2	2.4290e-003	1.9140e-003
tblVehicleEF	LDT2	1.5450e-003	1.3520e-003
tblVehicleEF	LDT2	2.2330e-003	1.7600e-003
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	0.13	0.15

tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.10	0.60
tblVehicleEF	LDT2	0.13	0.40
tblVehicleEF	LDT2	3.2320e-003	3.1130e-003
tblVehicleEF	LDT2	8.1100e-004	6.8700e-004
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	0.13	0.15
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.10	0.61
tblVehicleEF	LDT2	0.15	0.43
tblVehicleEF	LHD1	4.4040e-003	4.0760e-003
tblVehicleEF	LHD1	0.02	9.9110e-003
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	0.13	0.16
tblVehicleEF	LHD1	1.12	0.96
tblVehicleEF	LHD1	1.96	0.84
tblVehicleEF	LHD1	9.54	9.59
tblVehicleEF	LHD1	679.25	756.26
tblVehicleEF	LHD1	25.86	9.10
tblVehicleEF	LHD1	0.11	0.10
tblVehicleEF	LHD1	2.11	1.46
tblVehicleEF	LHD1	0.85	0.26
tblVehicleEF	LHD1	1.1390e-003	1.1270e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	0.02	0.02

tblVehicleEF	LHD1	6.9000e-004	2.0200e-004
tblVehicleEF	LHD1	1.0900e-003	1.0790e-003
tblVehicleEF	LHD1	2.6050e-003	2.5630e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	6.3500e-004	1.8600e-004
tblVehicleEF	LHD1	3.0480e-003	2.6410e-003
tblVehicleEF	LHD1	0.09	0.07
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.3490e-003	1.1480e-003
tblVehicleEF	LHD1	0.15	0.13
tblVehicleEF	LHD1	0.27	0.46
tblVehicleEF	LHD1	0.20	0.06
tblVehicleEF	LHD1	9.5000e-005	9.2000e-005
tblVehicleEF	LHD1	6.6380e-003	7.3440e-003
tblVehicleEF	LHD1	2.9600e-004	9.0000e-005
tblVehicleEF	LHD1	3.0480e-003	2.6410e-003
tblVehicleEF	LHD1	0.09	0.07
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	1.3490e-003	1.1480e-003
tblVehicleEF	LHD1	0.18	0.15
tblVehicleEF	LHD1	0.27	0.46
tblVehicleEF	LHD1	0.22	0.07
tblVehicleEF	LHD1	4.4040e-003	4.0880e-003
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	0.13	0.16
tblVehicleEF	LHD1	1.14	0.97

tblVehicleEF	LHD1	1.82	0.78
tblVehicleEF	LHD1	9.54	9.59
tblVehicleEF	LHD1	679.25	756.30
tblVehicleEF	LHD1	25.86	9.00
tblVehicleEF	LHD1	0.11	0.10
tblVehicleEF	LHD1	2.01	1.38
tblVehicleEF	LHD1	0.80	0.25
tblVehicleEF	LHD1	1.1390e-003	1.1270e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	6.9000e-004	2.0200e-004
tblVehicleEF	LHD1	1.0900e-003	1.0790e-003
tblVehicleEF	LHD1	2.6050e-003	2.5630e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	6.3500e-004	1.8600e-004
tblVehicleEF	LHD1	7.1830e-003	6.2450e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	2.7660e-003	2.3730e-003
tblVehicleEF	LHD1	0.15	0.13
tblVehicleEF	LHD1	0.27	0.46
tblVehicleEF	LHD1	0.19	0.06
tblVehicleEF	LHD1	9.5000e-005	9.2000e-005
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tblVehicleEF	LHD1	2.9300e-004	8.9000e-005
tblVehicleEF	LHD1	7.1830e-003	6.2450e-003
tblVehicleEF	LHD1	0.10	0.08

tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	2.7660e-003	2.3730e-003
tblVehicleEF	LHD1	0.18	0.15
tblVehicleEF	LHD1	0.27	0.46
tblVehicleEF	LHD1	0.21	0.07
tblVehicleEF	LHD1	4.4040e-003	4.0630e-003
tblVehicleEF	LHD1	0.02	9.6990e-003
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	0.13	0.16
tblVehicleEF	LHD1	1.10	0.94
tblVehicleEF	LHD1	2.15	0.92
tblVehicleEF	LHD1	9.54	9.59
tblVehicleEF	LHD1	679.25	756.23
tblVehicleEF	LHD1	25.86	9.24
tblVehicleEF	LHD1	0.11	0.10
tblVehicleEF	LHD1	2.16	1.49
tblVehicleEF	LHD1	0.91	0.28
tblVehicleEF	LHD1	1.1390e-003	1.1270e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	6.9000e-004	2.0200e-004
tblVehicleEF	LHD1	1.0900e-003	1.0790e-003
tblVehicleEF	LHD1	2.6050e-003	2.5630e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	6.3500e-004	1.8600e-004
tblVehicleEF	LHD1	9.4400e-004	8.0400e-004
tblVehicleEF	LHD1	0.09	0.07

tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	5.1300e-004	4.3200e-004
tblVehicleEF	LHD1	0.15	0.13
tblVehicleEF	LHD1	0.30	0.50
tblVehicleEF	LHD1	0.22	0.07
tblVehicleEF	LHD1	9.5000e-005	9.2000e-005
tblVehicleEF	LHD1	6.6380e-003	7.3430e-003
tblVehicleEF	LHD1	2.9900e-004	9.1000e-005
tblVehicleEF	LHD1	9.4400e-004	8.0400e-004
tblVehicleEF	LHD1	0.09	0.07
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	5.1300e-004	4.3200e-004
tblVehicleEF	LHD1	0.18	0.15
tblVehicleEF	LHD1	0.30	0.50
tblVehicleEF	LHD1	0.24	0.07
tblVehicleEF	LHD2	3.1920e-003	2.8120e-003
tblVehicleEF	LHD2	8.1930e-003	7.2240e-003
tblVehicleEF	LHD2	6.7120e-003	7.5750e-003
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.65	0.68
tblVehicleEF	LHD2	1.06	0.51
tblVehicleEF	LHD2	14.50	14.88
tblVehicleEF	LHD2	709.59	764.25
tblVehicleEF	LHD2	22.18	6.64
tblVehicleEF	LHD2	0.11	0.12
tblVehicleEF	LHD2	1.20	1.26
tblVehicleEF	LHD2	0.44	0.17

tblVehicleEF	LHD2	1.3280e-003	1.5190e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	3.5900e-004	1.0300e-004
tblVehicleEF	LHD2	1.2710e-003	1.4530e-003
tblVehicleEF	LHD2	2.7100e-003	2.7320e-003
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	3.3000e-004	9.5000e-005
tblVehicleEF	LHD2	1.1830e-003	1.3070e-003
tblVehicleEF	LHD2	0.03	0.04
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	5.5700e-004	5.9700e-004
tblVehicleEF	LHD2	0.12	0.12
tblVehicleEF	LHD2	0.07	0.23
tblVehicleEF	LHD2	0.09	0.04
tblVehicleEF	LHD2	1.4100e-004	1.4200e-004
tblVehicleEF	LHD2	6.8930e-003	7.3610e-003
tblVehicleEF	LHD2	2.4100e-004	6.6000e-005
tblVehicleEF	LHD2	1.1830e-003	1.3070e-003
tblVehicleEF	LHD2	0.03	0.04
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	5.5700e-004	5.9700e-004
tblVehicleEF	LHD2	0.14	0.14
tblVehicleEF	LHD2	0.07	0.23
tblVehicleEF	LHD2	0.10	0.04
tblVehicleEF	LHD2	3.1920e-003	2.8190e-003
tblVehicleEF	LHD2	8.2860e-003	7.2770e-003

tblVehicleEF	LHD2	6.3660e-003	7.1800e-003
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.66	0.69
tblVehicleEF	LHD2	0.99	0.47
tblVehicleEF	LHD2	14.50	14.88
tblVehicleEF	LHD2	709.59	764.26
tblVehicleEF	LHD2	22.18	6.58
tblVehicleEF	LHD2	0.11	0.12
tblVehicleEF	LHD2	1.14	1.20
tblVehicleEF	LHD2	0.42	0.16
tblVehicleEF	LHD2	1.3280e-003	1.5190e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	3.5900e-004	1.0300e-004
tblVehicleEF	LHD2	1.2710e-003	1.4530e-003
tblVehicleEF	LHD2	2.7100e-003	2.7320e-003
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	3.3000e-004	9.5000e-005
tblVehicleEF	LHD2	2.7760e-003	3.0770e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	1.1350e-003	1.2280e-003
tblVehicleEF	LHD2	0.12	0.12
tblVehicleEF	LHD2	0.07	0.23
tblVehicleEF	LHD2	0.09	0.04
tblVehicleEF	LHD2	1.4100e-004	1.4200e-004
tblVehicleEF	LHD2	6.8930e-003	7.3610e-003

tblVehicleEF	LHD2	2.4000e-004	6.5000e-005
tblVehicleEF	LHD2	2.7760e-003	3.0770e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	1.1350e-003	1.2280e-003
tblVehicleEF	LHD2	0.14	0.14
tblVehicleEF	LHD2	0.07	0.23
tblVehicleEF	LHD2	0.09	0.04
tblVehicleEF	LHD2	3.1920e-003	2.8030e-003
tblVehicleEF	LHD2	8.0870e-003	7.1620e-003
tblVehicleEF	LHD2	7.1310e-003	8.0490e-003
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.65	0.68
tblVehicleEF	LHD2	1.16	0.55
tblVehicleEF	LHD2	14.50	14.88
tblVehicleEF	LHD2	709.59	764.25
tblVehicleEF	LHD2	22.18	6.73
tblVehicleEF	LHD2	0.11	0.12
tblVehicleEF	LHD2	1.22	1.29
tblVehicleEF	LHD2	0.47	0.18
tblVehicleEF	LHD2	1.3280e-003	1.5190e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	3.5900e-004	1.0300e-004
tblVehicleEF	LHD2	1.2710e-003	1.4530e-003
tblVehicleEF	LHD2	2.7100e-003	2.7320e-003
tblVehicleEF	LHD2	0.02	0.02

tblVehicleEF	LHD2	3.3000e-004	9.5000e-005
tblVehicleEF	LHD2	3.7300e-004	4.0800e-004
tblVehicleEF	LHD2	0.03	0.04
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	2.1300e-004	2.2700e-004
tblVehicleEF	LHD2	0.12	0.12
tblVehicleEF	LHD2	0.08	0.25
tblVehicleEF	LHD2	0.10	0.04
tblVehicleEF	LHD2	1.4100e-004	1.4200e-004
tblVehicleEF	LHD2	6.8930e-003	7.3610e-003
tblVehicleEF	LHD2	2.4300e-004	6.7000e-005
tblVehicleEF	LHD2	3.7300e-004	4.0800e-004
tblVehicleEF	LHD2	0.03	0.04
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	2.1300e-004	2.2700e-004
tblVehicleEF	LHD2	0.14	0.14
tblVehicleEF	LHD2	0.08	0.25
tblVehicleEF	LHD2	0.11	0.04
tblVehicleEF	MCY	0.42	0.33
tblVehicleEF	MCY	0.16	0.25
tblVehicleEF	MCY	19.86	19.81
tblVehicleEF	MCY	10.05	8.90
tblVehicleEF	MCY	164.76	211.79
tblVehicleEF	MCY	46.75	61.91
tblVehicleEF	MCY	1.16	1.16
tblVehicleEF	MCY	0.32	0.27
tblVehicleEF	MCY	1.7890e-003	1.8140e-003

tblVehicleEF	MCY	3.3740e-003	2.9500e-003
tblVehicleEF	MCY	1.6740e-003	1.6970e-003
tblVehicleEF	MCY	3.1820e-003	2.7790e-003
tblVehicleEF	MCY	1.62	1.60
tblVehicleEF	MCY	0.96	0.94
tblVehicleEF	MCY	0.87	0.86
tblVehicleEF	MCY	2.21	2.20
tblVehicleEF	MCY	0.54	2.13
tblVehicleEF	MCY	2.19	1.93
tblVehicleEF	MCY	2.0360e-003	2.0960e-003
tblVehicleEF	MCY	6.9600e-004	6.1300e-004
tblVehicleEF	MCY	1.62	1.60
tblVehicleEF	MCY	0.96	0.94
tblVehicleEF	MCY	0.87	0.86
tblVehicleEF	MCY	2.71	2.71
tblVehicleEF	MCY	0.54	2.13
tblVehicleEF	MCY	2.38	2.10
tblVehicleEF	MCY	0.41	0.32
tblVehicleEF	MCY	0.14	0.22
tblVehicleEF	MCY	20.20	20.15
tblVehicleEF	MCY	9.13	8.03
tblVehicleEF	MCY	164.76	212.15
tblVehicleEF	MCY	46.75	59.57
tblVehicleEF	MCY	1.01	1.01
tblVehicleEF	MCY	0.29	0.25
tblVehicleEF	MCY	1.7890e-003	1.8140e-003
tblVehicleEF	MCY	3.3740e-003	2.9500e-003

tblVehicleEF	MCY	1.6740e-003	1.6970e-003
tblVehicleEF	MCY	3.1820e-003	2.7790e-003
tblVehicleEF	MCY	4.07	4.01
tblVehicleEF	MCY	1.47	1.45
tblVehicleEF	MCY	2.21	2.17
tblVehicleEF	MCY	2.16	2.15
tblVehicleEF	MCY	0.53	2.08
tblVehicleEF	MCY	1.87	1.64
tblVehicleEF	MCY	2.0390e-003	2.0990e-003
tblVehicleEF	MCY	6.7100e-004	5.8900e-004
tblVehicleEF	MCY	4.07	4.01
tblVehicleEF	MCY	1.47	1.45
tblVehicleEF	MCY	2.21	2.17
tblVehicleEF	MCY	2.65	2.65
tblVehicleEF	MCY	0.53	2.08
tblVehicleEF	MCY	2.03	1.78
tblVehicleEF	MCY	0.44	0.34
tblVehicleEF	MCY	0.20	0.31
tblVehicleEF	MCY	21.46	21.40
tblVehicleEF	MCY	11.83	10.52
tblVehicleEF	MCY	164.76	214.73
tblVehicleEF	MCY	46.75	65.91
tblVehicleEF	MCY	1.27	1.27
tblVehicleEF	MCY	0.34	0.29
tblVehicleEF	MCY	1.7890e-003	1.8140e-003
tblVehicleEF	MCY	3.3740e-003	2.9500e-003
tblVehicleEF	MCY	1.6740e-003	1.6970e-003

tblVehicleEF	MCY	3.1820e-003	2.7790e-003
tblVehicleEF	MCY	0.40	0.39
tblVehicleEF	MCY	0.95	0.93
tblVehicleEF	MCY	0.20	0.19
tblVehicleEF	MCY	2.33	2.32
tblVehicleEF	MCY	0.63	2.48
tblVehicleEF	MCY	2.66	2.36
tblVehicleEF	MCY	2.0650e-003	2.1250e-003
tblVehicleEF	MCY	7.4000e-004	6.5200e-004
tblVehicleEF	MCY	0.40	0.39
tblVehicleEF	MCY	0.95	0.93
tblVehicleEF	MCY	0.20	0.19
tblVehicleEF	MCY	2.85	2.85
tblVehicleEF	MCY	0.63	2.48
tblVehicleEF	MCY	2.90	2.57
tblVehicleEF	MDV	0.01	4.1520e-003
tblVehicleEF	MDV	0.02	0.08
tblVehicleEF	MDV	1.17	0.91
tblVehicleEF	MDV	3.27	3.22
tblVehicleEF	MDV	467.81	407.57
tblVehicleEF	MDV	108.87	86.27
tblVehicleEF	MDV	0.16	0.09
tblVehicleEF	MDV	0.35	0.36
tblVehicleEF	MDV	1.5840e-003	1.4320e-003
tblVehicleEF	MDV	2.2840e-003	1.8940e-003
tblVehicleEF	MDV	1.4600e-003	1.3210e-003
tblVehicleEF	MDV	2.1000e-003	1.7410e-003

tblVehicleEF	MDV	0.11	0.13
tblVehicleEF	MDV	0.21	0.18
tblVehicleEF	MDV	0.09	0.11
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	0.14	0.55
tblVehicleEF	MDV	0.25	0.42
tblVehicleEF	MDV	4.6860e-003	4.0290e-003
tblVehicleEF	MDV	1.1460e-003	8.5400e-004
tblVehicleEF	MDV	0.11	0.13
tblVehicleEF	MDV	0.21	0.18
tblVehicleEF	MDV	0.09	0.11
tblVehicleEF	MDV	0.04	0.03
tblVehicleEF	MDV	0.14	0.55
tblVehicleEF	MDV	0.27	0.46
tblVehicleEF	MDV	0.01	4.8320e-003
tblVehicleEF	MDV	0.02	0.07
tblVehicleEF	MDV	1.45	1.13
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tblVehicleEF	MDV	512.29	434.17
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tblVehicleEF	MDV	0.33	0.34
tblVehicleEF	MDV	1.5840e-003	1.4320e-003
tblVehicleEF	MDV	2.2840e-003	1.8940e-003
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tblVehicleEF	MDV	0.19	0.22
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	0.13	0.54
tblVehicleEF	MDV	0.21	0.35
tblVehicleEF	MDV	5.1340e-003	4.2930e-003
tblVehicleEF	MDV	1.1360e-003	8.4300e-004
tblVehicleEF	MDV	0.26	0.30
tblVehicleEF	MDV	0.25	0.21
tblVehicleEF	MDV	0.19	0.22
tblVehicleEF	MDV	0.05	0.03
tblVehicleEF	MDV	0.13	0.54
tblVehicleEF	MDV	0.22	0.38
tblVehicleEF	MDV	0.01	3.8320e-003
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tblVehicleEF	MDV	1.08	0.84
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tblVehicleEF	MDV	2.1000e-003	1.7410e-003
tblVehicleEF	MDV	0.03	0.04
tblVehicleEF	MDV	0.21	0.18

tblVehicleEF	MDV	0.03	0.04
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	0.16	0.65
tblVehicleEF	MDV	0.30	0.50
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tblVehicleEF	MDV	0.21	0.18
tblVehicleEF	MDV	0.03	0.04
tblVehicleEF	MDV	0.04	0.02
tblVehicleEF	MDV	0.16	0.65
tblVehicleEF	MDV	0.33	0.55
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tblVehicleEF	MH	1.41	0.00

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tblVehicleEF	MH	0.03	0.00
tblVehicleEF	MH	0.31	0.00
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tblVehicleEF	MH	6.5500e-004	0.00
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tblVehicleEF	MH	0.10	0.00
tblVehicleEF	MH	0.78	0.00
tblVehicleEF	MH	0.16	0.15
tblVehicleEF	MH	0.03	0.00
tblVehicleEF	MH	0.34	0.00
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tblVehicleEF	MH	0.03	0.00
tblVehicleEF	MH	0.36	0.00
tblVehicleEF	MH	0.01	9.8120e-003
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tblVehicleEF	MH	0.09	0.00
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tblVehicleEF	MHD	11.87	1.68

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tblVehicleEF	MHD	5.7600e-004	3.3800e-004
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tblVehicleEF	MHD	11.83	1.67
tblVehicleEF	MHD	1.5200e-004	4.8500e-004
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tblVehicleEF	OBUS	1.0080e-003	2.6200e-004

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tblVehicleEF	OBUS	0.45	0.15
tblVehicleEF	OBUS	8.4100e-004	6.5800e-004

tblVehicleEF	OBUS	0.01	0.02
tblVehicleEF	OBUS	8.2800e-004	2.3300e-004
tblVehicleEF	OBUS	1.0150e-003	1.2300e-003
tblVehicleEF	OBUS	0.03	0.03
tblVehicleEF	OBUS	0.05	0.06
tblVehicleEF	OBUS	4.8500e-004	5.8300e-004
tblVehicleEF	OBUS	0.07	0.10
tblVehicleEF	OBUS	0.06	0.45
tblVehicleEF	OBUS	0.49	0.16
tblVehicleEF	SBUS	0.82	0.02
tblVehicleEF	SBUS	0.02	8.4960e-003
tblVehicleEF	SBUS	0.10	2.1330e-003
tblVehicleEF	SBUS	5.50	1.07
tblVehicleEF	SBUS	1.22	0.68
tblVehicleEF	SBUS	7.46	0.33
tblVehicleEF	SBUS	1,258.52	330.16
tblVehicleEF	SBUS	1,113.27	1,109.44
tblVehicleEF	SBUS	36.84	1.56
tblVehicleEF	SBUS	11.13	4.00
tblVehicleEF	SBUS	4.40	7.06
tblVehicleEF	SBUS	15.29	0.66
tblVehicleEF	SBUS	0.01	5.2510e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.02	0.04
tblVehicleEF	SBUS	5.8400e-004	2.1000e-005
tblVehicleEF	SBUS	0.01	5.0240e-003
tblVehicleEF	SBUS	2.7210e-003	2.8540e-003

tblVehicleEF	SBUS	0.02	0.04
tblVehicleEF	SBUS	5.3700e-004	1.9000e-005
tblVehicleEF	SBUS	6.0120e-003	5.3900e-004
tblVehicleEF	SBUS	0.04	3.6710e-003
tblVehicleEF	SBUS	0.65	0.10
tblVehicleEF	SBUS	1.8620e-003	1.5700e-004
tblVehicleEF	SBUS	0.13	0.12
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	0.38	0.01
tblVehicleEF	SBUS	0.01	3.1280e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	4.9700e-004	1.5000e-005
tblVehicleEF	SBUS	6.0120e-003	5.3900e-004
tblVehicleEF	SBUS	0.04	3.6710e-003
tblVehicleEF	SBUS	0.93	0.14
tblVehicleEF	SBUS	1.8620e-003	1.5700e-004
tblVehicleEF	SBUS	0.16	0.14
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	0.42	0.01
tblVehicleEF	SBUS	0.82	0.02
tblVehicleEF	SBUS	0.02	8.6180e-003
tblVehicleEF	SBUS	0.08	1.7040e-003
tblVehicleEF	SBUS	5.36	1.02
tblVehicleEF	SBUS	1.25	0.69
tblVehicleEF	SBUS	4.95	0.22
tblVehicleEF	SBUS	1,322.49	341.71
tblVehicleEF	SBUS	1,113.27	1,109.46

tblVehicleEF	SBUS	36.84	1.38
tblVehicleEF	SBUS	11.49	4.11
tblVehicleEF	SBUS	4.17	6.71
tblVehicleEF	SBUS	15.25	0.66
tblVehicleEF	SBUS	9.0310e-003	4.4330e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.02	0.04
tblVehicleEF	SBUS	5.8400e-004	2.1000e-005
tblVehicleEF	SBUS	8.6410e-003	4.2420e-003
tblVehicleEF	SBUS	2.7210e-003	2.8540e-003
tblVehicleEF	SBUS	0.02	0.04
tblVehicleEF	SBUS	5.3700e-004	1.9000e-005
tblVehicleEF	SBUS	0.01	1.2980e-003
tblVehicleEF	SBUS	0.05	4.2470e-003
tblVehicleEF	SBUS	0.65	0.10
tblVehicleEF	SBUS	3.7800e-003	3.2900e-004
tblVehicleEF	SBUS	0.13	0.12
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	0.31	9.8350e-003
tblVehicleEF	SBUS	0.01	3.2370e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	4.5600e-004	1.4000e-005
tblVehicleEF	SBUS	0.01	1.2980e-003
tblVehicleEF	SBUS	0.05	4.2470e-003
tblVehicleEF	SBUS	0.92	0.14
tblVehicleEF	SBUS	3.7800e-003	3.2900e-004
tblVehicleEF	SBUS	0.16	0.14

tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	0.34	0.01
tblVehicleEF	SBUS	0.82	0.02
tblVehicleEF	SBUS	0.02	8.3660e-003
tblVehicleEF	SBUS	0.12	2.5950e-003
tblVehicleEF	SBUS	5.69	1.13
tblVehicleEF	SBUS	1.18	0.66
tblVehicleEF	SBUS	10.48	0.46
tblVehicleEF	SBUS	1,170.17	314.20
tblVehicleEF	SBUS	1,113.27	1,109.41
tblVehicleEF	SBUS	36.84	1.78
tblVehicleEF	SBUS	10.64	3.85
tblVehicleEF	SBUS	4.50	7.21
tblVehicleEF	SBUS	15.35	0.66
tblVehicleEF	SBUS	0.01	6.3810e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.02	0.04
tblVehicleEF	SBUS	5.8400e-004	2.1000e-005
tblVehicleEF	SBUS	0.01	6.1050e-003
tblVehicleEF	SBUS	2.7210e-003	2.8540e-003
tblVehicleEF	SBUS	0.02	0.04
tblVehicleEF	SBUS	5.3700e-004	1.9000e-005
tblVehicleEF	SBUS	1.8860e-003	1.6200e-004
tblVehicleEF	SBUS	0.04	3.5820e-003
tblVehicleEF	SBUS	0.65	0.10
tblVehicleEF	SBUS	8.3900e-004	6.8000e-005
tblVehicleEF	SBUS	0.13	0.12

tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	0.47	0.01
tblVehicleEF	SBUS	0.01	2.9770e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	5.4800e-004	1.8000e-005
tblVehicleEF	SBUS	1.8860e-003	1.6200e-004
tblVehicleEF	SBUS	0.04	3.5820e-003
tblVehicleEF	SBUS	0.93	0.14
tblVehicleEF	SBUS	8.3900e-004	6.8000e-005
tblVehicleEF	SBUS	0.16	0.14
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	0.51	0.02
tblVehicleEF	UBUS	0.81	3.6810e-003
tblVehicleEF	UBUS	0.09	0.01
tblVehicleEF	UBUS	7.82	0.04
tblVehicleEF	UBUS	16.86	0.88
tblVehicleEF	UBUS	1,907.38	293.69
tblVehicleEF	UBUS	163.75	9.69
tblVehicleEF	UBUS	6.12	0.05
tblVehicleEF	UBUS	11.84	0.09
tblVehicleEF	UBUS	0.45	0.02
tblVehicleEF	UBUS	0.01	2.6270e-003
tblVehicleEF	UBUS	0.10	6.8400e-004
tblVehicleEF	UBUS	1.4610e-003	1.1700e-004
tblVehicleEF	UBUS	0.19	0.01
tblVehicleEF	UBUS	3.0000e-003	6.5700e-004
tblVehicleEF	UBUS	0.10	6.4200e-004

tblVehicleEF	UBUS	1.3440e-003	1.0800e-004
tblVehicleEF	UBUS	0.01	6.8600e-004
tblVehicleEF	UBUS	0.15	3.5730e-003
tblVehicleEF	UBUS	5.0930e-003	2.5900e-004
tblVehicleEF	UBUS	0.74	3.0480e-003
tblVehicleEF	UBUS	0.03	0.01
tblVehicleEF	UBUS	1.23	0.04
tblVehicleEF	UBUS	0.01	2.8740e-003
tblVehicleEF	UBUS	1.9400e-003	9.6000e-005
tblVehicleEF	UBUS	0.01	6.8600e-004
tblVehicleEF	UBUS	0.15	3.5730e-003
tblVehicleEF	UBUS	5.0930e-003	2.5900e-004
tblVehicleEF	UBUS	1.61	7.1110e-003
tblVehicleEF	UBUS	0.03	0.01
tblVehicleEF	UBUS	1.35	0.04
tblVehicleEF	UBUS	0.83	3.7040e-003
tblVehicleEF	UBUS	0.08	8.9370e-003
tblVehicleEF	UBUS	7.98	0.04
tblVehicleEF	UBUS	13.29	0.72
tblVehicleEF	UBUS	1,907.38	293.69
tblVehicleEF	UBUS	163.75	9.42
tblVehicleEF	UBUS	5.77	0.05
tblVehicleEF	UBUS	11.71	0.09
tblVehicleEF	UBUS	0.45	0.02
tblVehicleEF	UBUS	0.01	2.6270e-003
tblVehicleEF	UBUS	0.10	6.8400e-004
tblVehicleEF	UBUS	1.4610e-003	1.1700e-004

tblVehicleEF	UBUS	0.19	0.01
tblVehicleEF	UBUS	3.0000e-003	6.5700e-004
tblVehicleEF	UBUS	0.10	6.4200e-004
tblVehicleEF	UBUS	1.3440e-003	1.0800e-004
tblVehicleEF	UBUS	0.03	1.6650e-003
tblVehicleEF	UBUS	0.18	5.0800e-003
tblVehicleEF	UBUS	0.01	5.9100e-004
tblVehicleEF	UBUS	0.77	3.1110e-003
tblVehicleEF	UBUS	0.03	0.01
tblVehicleEF	UBUS	1.06	0.04
tblVehicleEF	UBUS	0.01	2.8740e-003
tblVehicleEF	UBUS	1.8780e-003	9.3000e-005
tblVehicleEF	UBUS	0.03	1.6650e-003
tblVehicleEF	UBUS	0.18	5.0800e-003
tblVehicleEF	UBUS	0.01	5.9100e-004
tblVehicleEF	UBUS	1.66	7.2030e-003
tblVehicleEF	UBUS	0.03	0.01
tblVehicleEF	UBUS	1.17	0.04
tblVehicleEF	UBUS	0.80	3.6560e-003
tblVehicleEF	UBUS	0.11	0.01
tblVehicleEF	UBUS	7.65	0.04
tblVehicleEF	UBUS	21.59	1.09
tblVehicleEF	UBUS	1,907.38	293.69
tblVehicleEF	UBUS	163.75	10.03
tblVehicleEF	UBUS	6.29	0.06
tblVehicleEF	UBUS	12.00	0.10
tblVehicleEF	UBUS	0.45	0.02

tblVehicleEF	UBUS	0.01	2.6270e-003
tblVehicleEF	UBUS	0.10	6.8400e-004
tblVehicleEF	UBUS	1.4610e-003	1.1700e-004
tblVehicleEF	UBUS	0.19	0.01
tblVehicleEF	UBUS	3.0000e-003	6.5700e-004
tblVehicleEF	UBUS	0.10	6.4200e-004
tblVehicleEF	UBUS	1.3440e-003	1.0800e-004
tblVehicleEF	UBUS	4.0080e-003	1.9400e-004
tblVehicleEF	UBUS	0.16	3.4040e-003
tblVehicleEF	UBUS	2.2040e-003	8.7000e-005
tblVehicleEF	UBUS	0.71	2.9780e-003
tblVehicleEF	UBUS	0.03	0.02
tblVehicleEF	UBUS	1.44	0.05
tblVehicleEF	UBUS	0.01	2.8740e-003
tblVehicleEF	UBUS	2.0210e-003	9.9000e-005
tblVehicleEF	UBUS	4.0080e-003	1.9400e-004
tblVehicleEF	UBUS	0.16	3.4040e-003
tblVehicleEF	UBUS	2.2040e-003	8.7000e-005
tblVehicleEF	UBUS	1.57	7.0090e-003
tblVehicleEF	UBUS	0.03	0.02
tblVehicleEF	UBUS	1.57	0.05
tblVehicleTrips	CC_TTP	80.20	0.00
tblVehicleTrips	CC_TTP	78.80	0.00
tblVehicleTrips	CC_TTP	72.50	0.00
tblVehicleTrips	CC_TTP	62.00	0.00
tblVehicleTrips	CC_TTP	64.70	0.00
tblVehicleTrips	CNW_TL	6.60	9.89

tblVehicleTrips	CNW_TL	6.60	9.89
tblVehicleTrips	CNW_TL	6.60	9.89
tblVehicleTrips	CNW_TL	6.60	9.89
tblVehicleTrips	CNW_TL	6.60	9.89
tblVehicleTrips	CNW_TTP	19.00	100.00
tblVehicleTrips	CNW_TTP	19.00	100.00
tblVehicleTrips	CNW_TTP	19.00	100.00
tblVehicleTrips	CNW_TTP	19.00	100.00
tblVehicleTrips	CNW_TTP	19.00	100.00
tblVehicleTrips	CW_TTP	0.80	0.00
tblVehicleTrips	CW_TTP	2.20	0.00
tblVehicleTrips	CW_TTP	8.50	0.00
tblVehicleTrips	CW_TTP	19.00	0.00
tblVehicleTrips	CW_TTP	16.30	0.00
tblVehicleTrips	DV_TP	21.00	0.00
tblVehicleTrips	DV_TP	21.00	0.00
tblVehicleTrips	DV_TP	20.00	0.00
tblVehicleTrips	DV_TP	38.00	0.00
tblVehicleTrips	DV_TP	35.00	0.00
tblVehicleTrips	PB_TP	65.00	0.00
tblVehicleTrips	PB_TP	50.00	0.00
tblVehicleTrips	PB_TP	43.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PR_TP	14.00	100.00
tblVehicleTrips	PR_TP	29.00	100.00
tblVehicleTrips	PR_TP	37.00	100.00

tblVehicleTrips	PR_TP	58.00	100.00
tblVehicleTrips	PR_TP	54.00	100.00
tblVehicleTrips	ST_TR	1,448.33	65.09
tblVehicleTrips	ST_TR	722.03	153.76
tblVehicleTrips	ST_TR	158.37	151.01
tblVehicleTrips	ST_TR	5.63	8.10
tblVehicleTrips	ST_TR	49.97	126.38
tblVehicleTrips	SU_TR	1,182.08	65.09
tblVehicleTrips	SU_TR	542.72	153.76
tblVehicleTrips	SU_TR	131.84	151.01
tblVehicleTrips	SU_TR	5.63	8.10
tblVehicleTrips	SU_TR	25.24	126.83
tblVehicleTrips	WD_TR	845.60	65.09
tblVehicleTrips	WD_TR	496.12	153.76
tblVehicleTrips	WD_TR	127.15	151.01
tblVehicleTrips	WD_TR	5.63	8.10
tblVehicleTrips	WD_TR	42.70	126.38
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00

tblWater	IndoorWaterUseRate	1,722,926.85	2,776,190.00
tblWater	IndoorWaterUseRate	2,989,807.07	1,150,129.60
tblWater	IndoorWaterUseRate	3,044,443.14	1,171,036.80
tblWater	IndoorWaterUseRate	4,743,585.99	4,777,850.00
tblWater	IndoorWaterUseRate	887,388.81	218,635.00
tblWater	OutdoorWaterUseRate	1,055,987.42	0.00
tblWater	OutdoorWaterUseRate	190,838.75	0.00
tblWater	OutdoorWaterUseRate	194,326.16	0.00
tblWater	OutdoorWaterUseRate	527,065.11	0.00
tblWater	OutdoorWaterUseRate	543,883.46	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7962	9.0000e-005	0.0101	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0196	0.0196	5.0000e-005	0.0000	0.0209

Energy	0.0390	0.3543	0.2976	2.1300e-003		0.0269	0.0269		0.0269	0.0269	0.0000	553.5109	553.5109	0.0310	0.0120	557.8471
Mobile	3.6049	3.3867	32.3469	0.0908	10.1469	0.0580	10.2049	2.6976	0.0538	2.7514	0.0000	8,337.6266	8,337.6266	0.2990	0.0000	8,345.1025
Waste						0.0000	0.0000		0.0000	0.0000	27.9478	0.0000	27.9478	1.6517	0.0000	69.2395
Water						0.0000	0.0000		0.0000	0.0000	3.5712	5.1107	8.6819	0.0130	7.9100e-003	11.3658
Total	**4.4401**	**3.7411**	**32.6546**	**0.0930**	**10.1469**	**0.0850**	**10.2319**	**2.6976**	**0.0808**	**2.7784**	**31.5190**	**8,896.2677**	**8,927.7868**	**1.9948**	**0.0199**	**8,983.5757**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7962	9.0000e-005	0.0101	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0196	0.0196	5.0000e-005	0.0000	0.0209
Energy	0.0343	0.3113	0.2615	1.8700e-003		0.0237	0.0237		0.0237	0.0237	0.0000	488.6418	488.6418	0.0275	0.0106	492.4798
Mobile	3.6049	3.3867	32.3469	0.0908	10.1469	0.0580	10.2049	2.6976	0.0538	2.7514	0.0000	8,337.6266	8,337.6266	0.2990	0.0000	8,345.1025
Waste						0.0000	0.0000		0.0000	0.0000	27.9478	0.0000	27.9478	1.6517	0.0000	69.2395
Water						0.0000	0.0000		0.0000	0.0000	2.8570	4.0885	6.9455	0.0104	6.3300e-003	9.0926
Total	**4.4354**	**3.6982**	**32.6185**	**0.0927**	**10.1469**	**0.0817**	**10.2286**	**2.6976**	**0.0775**	**2.7751**	**30.8048**	**8,830.3765**	**8,861.1813**	**1.9887**	**0.0169**	**8,915.9352**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.11**	**1.15**	**0.11**	**0.28**	**0.00**	**3.85**	**0.03**	**0.00**	**4.05**	**0.12**	**2.27**	**0.74**	**0.75**	**0.30**	**14.90**	**0.75**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.6049	3.3867	32.3469	0.0908	10.1469	0.0580	10.2049	2.6976	0.0538	2.7514	0.0000	8,337.6266	8,337.6266	0.2990	0.0000	8,345.1025
Unmitigated	3.6049	3.3867	32.3469	0.0908	10.1469	0.0580	10.2049	2.6976	0.0538	2.7514	0.0000	8,337.6266	8,337.6266	0.2990	0.0000	8,345.1025

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Convenience Market With Gas Pumps	1,513.99	1,513.99	1513.99	5,450,316	5,450,316
Fast Food Restaurant with Drive Thru	1,514.52	1,514.52	1514.52	5,452,198	5,452,198
High Turnover (Sit Down Restaurant)	1,514.66	1,514.66	1514.66	5,452,717	5,452,717
Motel	1,514.14	1,514.14	1514.14	5,450,840	5,450,840
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	1,514.06	1,514.06	1519.45	5,453,315	5,453,315
Total	7,571.37	7,571.37	7,576.76	27,259,385	27,259,385

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Convenience Market With Gas Pumps	14.70	6.60	9.89	0.00	0.00	100.00	100	0	0
Fast Food Restaurant with Drive Thru	14.70	6.60	9.89	0.00	0.00	100.00	100	0	0
High Turnover (Sit Down Restaurant)	14.70	6.60	9.89	0.00	0.00	100.00	100	0	0
Motel	14.70	6.60	9.89	0.00	0.00	100.00	100	0	0
Other Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Parking Lot	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Regional Shopping Center	14.70	6.60	9.89	0.00	0.00	100.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Convenience Market With Gas Pumps	0.618895	0.033691	0.184236	0.135326	0.021033	0.000000	0.000000	0.000000	0.000000	0.000000	0.006819	0.000000	0.000000
Fast Food Restaurant with Drive Thru	0.618895	0.033691	0.184236	0.135326	0.021033	0.000000	0.000000	0.000000	0.000000	0.000000	0.006819	0.000000	0.000000
High Turnover (Sit Down Restaurant)	0.618895	0.033691	0.184236	0.135326	0.021033	0.000000	0.000000	0.000000	0.000000	0.000000	0.006819	0.000000	0.000000
Motel	0.618895	0.033691	0.184236	0.135326	0.021033	0.000000	0.000000	0.000000	0.000000	0.000000	0.006819	0.000000	0.000000
Other Asphalt Surfaces	0.503527	0.027411	0.149893	0.110100	0.017112	0.004226	0.011648	0.165560	0.001710	0.001695	0.005548	0.000922	0.000648
Other Non-Asphalt Surfaces	0.503527	0.027411	0.149893	0.110100	0.017112	0.004226	0.011648	0.165560	0.001710	0.001695	0.005548	0.000922	0.000648
Parking Lot	0.503527	0.027411	0.149893	0.110100	0.017112	0.004226	0.011648	0.165560	0.001710	0.001695	0.005548	0.000922	0.000648
Regional Shopping Center	0.618895	0.033691	0.184236	0.135326	0.021033	0.000000	0.000000	0.000000	0.000000	0.000000	0.006819	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	149.7246	149.7246	0.0211	4.3500e-003	151.5486
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	167.8000	167.8000	0.0236	4.8800e-003	169.8441
NaturalGas Mitigated	0.0343	0.3113	0.2615	1.8700e-003		0.0237	0.0237		0.0237	0.0237	0.0000	338.9172	338.9172	6.5000e-003	6.2100e-003	340.9312
NaturalGas Unmitigated	0.0390	0.3543	0.2976	2.1300e-003		0.0269	0.0269		0.0269	0.0269	0.0000	385.7109	385.7109	7.3900e-003	7.0700e-003	388.0030

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Convenience Market With Gas Pumps	248893	1.3400e-003	0.0122	0.0103	7.0000e-005		9.3000e-004	9.3000e-004		9.3000e-004	9.3000e-004	0.0000	13.2819	13.2819	2.5000e-004	2.4000e-004	13.3608
Fast Food Restaurant with Drive Thru	2.07201e+006	0.0112	0.1016	0.0853	6.1000e-004		7.7200e-003	7.7200e-003		7.7200e-003	7.7200e-003	0.0000	110.5701	110.5701	2.1200e-003	2.0300e-003	111.2272
High Turnover (Sit Down Restaurant)	2.10967e+006	0.0114	0.1034	0.0869	6.2000e-004		7.8600e-003	7.8600e-003		7.8600e-003	7.8600e-003	0.0000	112.5801	112.5801	2.1600e-003	2.0600e-003	113.2491
Motel	2.66919e+006	0.0144	0.1308	0.1099	7.9000e-004		9.9400e-003	9.9400e-003		9.9400e-003	9.9400e-003	0.0000	142.4384	142.4384	2.7300e-003	2.6100e-003	143.2848
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	128186	6.9000e-004	6.2800e-003	5.2800e-003	4.0000e-005		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	6.8405	6.8405	1.3000e-004	1.3000e-004	6.8811
Total		**0.0390**	**0.3543**	**0.2976**	**2.1300e-003**		**0.0269**	**0.0269**		**0.0269**	**0.0269**	**0.0000**	**385.7109**	**385.7109**	**7.3900e-003**	**7.0700e-003**	**388.0030**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Convenience Market With Gas Pumps	188740	1.0200e-003	9.2500e-003	7.7700e-003	6.0000e-005		7.0000e-004	7.0000e-004		7.0000e-004	7.0000e-004	0.0000	10.0719	10.0719	1.9000e-004	1.8000e-004	10.1317
Fast Food Restaurant with Drive Thru	1.96649e+006	0.0106	0.0964	0.0810	5.8000e-004		7.3300e-003	7.3300e-003		7.3300e-003	7.3300e-003	0.0000	104.9391	104.9391	2.0100e-003	1.9200e-003	105.5627
High Turnover (Sit Down Restaurant)	2.00223e+006	0.0108	0.0982	0.0824	5.9000e-004		7.4600e-003	7.4600e-003		7.4600e-003	7.4600e-003	0.0000	106.8467	106.8467	2.0500e-003	1.9600e-003	107.4817
Motel	2.09641e+006	0.0113	0.1028	0.0863	6.2000e-004		7.8100e-003	7.8100e-003		7.8100e-003	7.8100e-003	0.0000	111.8722	111.8722	2.1400e-003	2.0500e-003	112.5370
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	97205.7	5.2000e-004	4.7600e-003	4.0000e-003	3.0000e-005		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004	0.0000	5.1873	5.1873	1.0000e-004	1.0000e-004	5.2181
Total		**0.0342**	**0.3113**	**0.2615**	**1.8800e-003**		**0.0237**	**0.0237**		**0.0237**	**0.0237**	**0.0000**	**338.9172**	**338.9172**	**6.4900e-003**	**6.2100e-003**	**340.9312**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Convenience Market With Gas Pumps	189577	17.7390	2.4900e-003	5.2000e-004	17.9551
Fast Food Restaurant with Drive Thru	285268	26.6929	3.7500e-003	7.8000e-004	27.0181

High Turnover (Sit Down Restaurant)	290453	27.1782	3.8200e-003	7.9000e-004	27.5092
Motel	842680	78.8509	0.0111	2.2900e-003	79.8115
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	87664.5	8.2029	1.1500e-003	2.4000e-004	8.3028
Regional Shopping Center	97637	9.1361	1.2800e-003	2.7000e-004	9.2473
Total		**167.8000**	**0.0236**	**4.8900e-003**	**169.8441**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Convenience Market With Gas Pumps	174644	16.3417	2.3000e-003	4.8000e-004	16.5408
Fast Food Restaurant with Drive Thru	265918	24.8824	3.5000e-003	7.2000e-004	25.1855
High Turnover (Sit Down Restaurant)	270752	25.3347	3.5600e-003	7.4000e-004	25.6433
Motel	711184	66.5466	9.3600e-003	1.9400e-003	67.3573
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	87664.5	8.2029	1.1500e-003	2.4000e-004	8.3028
Regional Shopping Center	89945.8	8.4164	1.1800e-003	2.4000e-004	8.5189
Total		**149.7246**	**0.0211**	**4.3600e-003**	**151.5486**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.7962	9.0000e-005	0.0101	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0196	0.0196	5.0000e-005	0.0000	0.0209
Unmitigated	0.7962	9.0000e-005	0.0101	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0196	0.0196	5.0000e-005	0.0000	0.0209

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1174					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6779					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.3000e-004	9.0000e-005	0.0101	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0196	0.0196	5.0000e-005	0.0000	0.0209
Total	**0.7962**	**9.0000e-005**	**0.0101**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.0196**	**0.0196**	**5.0000e-005**	**0.0000**	**0.0209**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1174					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6779					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.3000e-004	9.0000e-005	0.0101	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0196	0.0196	5.0000e-005	0.0000	0.0209
Total	**0.7962**	**9.0000e-005**	**0.0101**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.0196**	**0.0196**	**5.0000e-005**	**0.0000**	**0.0209**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	6.9455	0.0104	6.3300e-003	9.0926
Unmitigated	8.6819	0.0130	7.9100e-003	11.3658

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Convenience Market With Gas Pumps	2.77619 / 0	2.3879	3.5800e-003	2.1800e-003	3.1260
Fast Food Restaurant with Drive Thru	1.15013 / 0	0.9893	1.4800e-003	9.0000e-004	1.2951
High Turnover (Sit Down Restaurant)	1.17104 / 0	1.0072	1.5100e-003	9.2000e-004	1.3186
Motel	4.77785 / 0	4.1095	6.1600e-003	3.7500e-003	5.3799
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0.218635 / 0	0.1881	2.8000e-004	1.7000e-004	0.2462
Total		**8.6819**	**0.0130**	**7.9200e-003**	**11.3658**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Convenience Market With Gas Pumps	2.22095 / 0	1.9103	2.8600e-003	1.7400e-003	2.5008
Fast Food Restaurant with Drive Thru	0.920104 / 0	0.7914	1.1900e-003	7.2000e-004	1.0361
High Turnover (Sit Down Restaurant)	0.936829 / 0	0.8058	1.2100e-003	7.3000e-004	1.0549
Motel	3.82228 / 0	3.2876	4.9300e-003	3.0000e-003	4.3039
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0.174908 / 0	0.1504	2.3000e-004	1.4000e-004	0.1970
Total		**6.9455**	**0.0104**	**6.3300e-003**	**9.0926**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	27.9478	1.6517	0.0000	69.2395
Unmitigated	27.9478	1.6517	0.0000	69.2395

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Convenience Market With Gas Pumps	38.14	7.7421	0.4575	0.0000	19.1807
Fast Food Restaurant with Drive Thru	8.99	1.8249	0.1079	0.0000	4.5211
High Turnover (Sit Down Restaurant)	9.15	1.8574	0.1098	0.0000	4.6016
Motel	68.26	13.8562	0.8189	0.0000	34.3281
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	13.14	2.6673	0.1576	0.0000	6.6081
Total		**27.9478**	**1.6517**	**0.0000**	**69.2395**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Convenience Market With Gas Pumps	38.14	7.7421	0.4575	0.0000	19.1807
Fast Food Restaurant with Drive Thru	8.99	1.8249	0.1079	0.0000	4.5211
High Turnover (Sit Down Restaurant)	9.15	1.8574	0.1098	0.0000	4.6016
Motel	68.26	13.8562	0.8189	0.0000	34.3281
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	13.14	2.6673	0.1576	0.0000	6.6081
Total		**27.9478**	**1.6517**	**0.0000**	**69.2395**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Phase 1 Operation Year 2023

Kings County, Mitigation Report

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.77	10.77	10.69	10.84	10.77
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	12.14	12.13	12.14	11.74	12.14	12.14	0.00	12.13	12.13	12.18	12.16	12.13
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	19.91	20.08	20.00
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value 3
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	0.11	0.33		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			
No	Land Use	Increase Transit Accessibility	0.25			

No	Land Use	Integrate Below Market Rate Housing	0.00			
	Land Use	Land Use SubTotal	0.00			
No	Neighborhood Enhancements	Improve Pedestrian Network				
No	Neighborhood Enhancements	Provide Traffic Calming Measures				
No	Neighborhood Enhancements	Implement NEV Network	0.00			
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00			
No	Parking Policy Pricing	Limit Parking Supply	0.00			
No	Parking Policy Pricing	Unbundle Parking Costs	0.00			
No	Parking Policy Pricing	On-street Market Pricing	0.00			
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00			
No	Transit Improvements	Provide BRT System	0.00			
No	Transit Improvements	Expand Transit Network	0.00			
No	Transit Improvements	Increase Transit Frequency	0.00			
	Transit Improvements	Transit Improvements Subtotal	0.00			
		Land Use and Site Enhancement Subtotal	0.00			
No	Commute	Implement Trip Reduction Program				
No	Commute	Transit Subsidy				
No	Commute	Implement Employee Parking "Cash Out"				
No	Commute	Workplace Parking Charge				
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00			
No	Commute	Market Commute Trip Reduction Option	0.00			
No	Commute	Employee Vanpool/Shuttle	0.00		2.00	
No	Commute	Provide Ride Sharing Program				
	Commute	Commute Subtotal	0.00			
No	School Trip	Implement School Bus Program	0.00			
		Total VMT Reduction	0.00			

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
No	Use Low VOC Paint (Residential Interior)	150.00
No	Use Low VOC Paint (Residential Exterior)	150.00
No	Use Low VOC Paint (Non-residential Interior)	150.00
No	Use Low VOC Paint (Non-residential Exterior)	150.00
No	Use Low VOC Paint (Parking)	150.00
No	% Electric Lawnmower	
No	% Electric Leafblower	
No	% Electric Chainsaw	

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
Yes	Exceed Title 24	30.00	
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy	0.00	0.00
No	Use Reclaimed Water	0.00	0.00
No	Use Grey Water	0.00	
Yes	Install low-flow bathroom faucet	32.00	
Yes	Install low-flow Kitchen faucet	18.00	
Yes	Install low-flow Toilet	20.00	
Yes	Install low-flow Shower	20.00	
No	Turf Reduction	0.00	
Yes	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape	0.00	0.00

Solid Waste Mitigation

Mitigation Measures	Input Value
Institute Recycling and Composting Services Percent Reduction in Waste Disposed	

CalEEMod Output: Phase 1 Operation – Proposed Project (Trucks)

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Operation Phase 1 (Trucks)

Kings County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	494.02	1000sqft	11.34	494,021.30	0
Other Non-Asphalt Surfaces	354.34	1000sqft	14.33	0.00	0
Parking Lot	5.75	Acre	5.75	250,470.00	0
Fast Food Restaurant with Drive Thru	9.85	1000sqft	0.23	9,847.00	0
High Turnover (Sit Down Restaurant)	10.03	1000sqft	0.23	10,026.00	0
Motel	187.00	Room	0.61	106,131.00	0
Convenience Market With Gas Pumps	23.26	1000sqft	0.53	23,261.00	0
Regional Shopping Center	11.98	1000sqft	0.28	11,980.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	37
Climate Zone	3			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	189.07	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See assumptions file

Land Use - See assumptions file

Construction Phase -

Vehicle Trips - See assumptions file.

Area Coating - Truck mobile emissions only.

Energy Use - Truck mobile emissions only.

Water And Wastewater - Truck mobile emissions only.

Solid Waste - Truck mobile emissions only.

Energy Mitigation -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	80623	0
tblAreaCoating	Area_Nonresidential_Interior	241868	0
tblAreaCoating	Area_Parking	44669	0
tblEnergyUse	LightingElect	3.71	0.00
tblEnergyUse	LightingElect	6.17	0.00
tblEnergyUse	LightingElect	6.17	0.00
tblEnergyUse	LightingElect	1.51	0.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	LightingElect	3.71	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	16.25	0.00
tblEnergyUse	NT24E	16.25	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	2.30	0.00

tblEnergyUse	NT24NG	2.08	0.00
tblEnergyUse	NT24NG	174.70	0.00
tblEnergyUse	NT24NG	174.70	0.00
tblEnergyUse	NT24NG	7.16	0.00
tblEnergyUse	NT24NG	2.08	0.00
tblEnergyUse	T24E	2.14	0.00
tblEnergyUse	T24E	6.55	0.00
tblEnergyUse	T24E	6.55	0.00
tblEnergyUse	T24E	4.13	0.00
tblEnergyUse	T24E	2.14	0.00
tblEnergyUse	T24NG	8.62	0.00
tblEnergyUse	T24NG	35.72	0.00
tblEnergyUse	T24NG	35.72	0.00
tblEnergyUse	T24NG	17.99	0.00
tblEnergyUse	T24NG	8.62	0.00
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tblFleetMix	HHD	0.17	1.00
tblFleetMix	HHD	0.17	1.00
tblFleetMix	HHD	0.17	1.00
tblFleetMix	HHD	0.17	1.00
tblFleetMix	LDA	0.50	0.00
tblFleetMix	LDA	0.50	0.00
tblFleetMix	LDA	0.50	0.00
tblFleetMix	LDA	0.50	0.00
tblFleetMix	LDA	0.50	0.00
tblFleetMix	LDT1	0.03	0.00
tblFleetMix	LDT1	0.03	0.00

tblFleetMix	LDT1	0.03	0.00
tblFleetMix	LDT1	0.03	0.00
tblFleetMix	LDT1	0.03	0.00
tblFleetMix	LDT2	0.15	0.00
tblFleetMix	LDT2	0.15	0.00
tblFleetMix	LDT2	0.15	0.00
tblFleetMix	LDT2	0.15	0.00
tblFleetMix	LDT2	0.15	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	4.2260e-003	0.00
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tblFleetMix	MDV	0.11	0.00
tblFleetMix	MDV	0.11	0.00
tblFleetMix	MDV	0.11	0.00

tblFleetMix	MDV	0.11	0.00
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tblFleetMix	MHD	0.01	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	1.7100e-003	0.00
tblFleetMix	OBUS	1.7100e-003	0.00
tblFleetMix	OBUS	1.7100e-003	0.00
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tblFleetMix	UBUS	1.6950e-003	0.00
tblFleetMix	UBUS	1.6950e-003	0.00
tblFleetMix	UBUS	1.6950e-003	0.00
tblFleetMix	UBUS	1.6950e-003	0.00
tblLandUse	LandUseSquareFeet	494,020.00	494,021.30

tblLandUse	LandUseSquareFeet	354,340.00	0.00
tblLandUse	LandUseSquareFeet	9,850.00	9,847.00
tblLandUse	LandUseSquareFeet	10,030.00	10,026.00
tblLandUse	LandUseSquareFeet	366,557.40	106,131.00
tblLandUse	LandUseSquareFeet	23,260.00	23,261.00
tblLandUse	LotAcreage	8.13	14.33
tblLandUse	LotAcreage	8.41	0.61
tblProjectCharacteristics	CO2IntensityFactor	641.35	189.07
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblSolidWaste	SolidWasteGenerationRate	69.90	0.00
tblSolidWaste	SolidWasteGenerationRate	113.46	0.00
tblSolidWaste	SolidWasteGenerationRate	119.36	0.00
tblSolidWaste	SolidWasteGenerationRate	102.38	0.00
tblSolidWaste	SolidWasteGenerationRate	12.58	0.00
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tblVehicleEF	HHD	20.62	2.25
tblVehicleEF	HHD	2.9270e-003	2.3920e-003

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tblVehicleEF	HHD	5.8620e-003	0.03
tblVehicleEF	HHD	1.6000e-005	0.00
tblVehicleEF	HHD	2.8010e-003	2.2880e-003
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tblVehicleEF	HHD	8.9710e-003	8.9800e-003
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tblVehicleEF	HHD	1.58	0.03

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tblVehicleEF	HHD	1.0000e-005	1.0000e-006
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tblVehicleEF	LDA	0.09	0.09
tblVehicleEF	LDA	0.03	0.04
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tblVehicleEF	LDA	0.06	0.09
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tblVehicleEF	LDA	8.6120e-003	6.7510e-003
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tblVehicleEF	LDA	0.08	0.24
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tblVehicleEF	LDA	0.01	0.02
tblVehicleEF	LDA	0.08	0.09
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tblVehicleEF	LDA	0.01	9.8180e-003
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tblVehicleEF	LDT1	0.21	0.27
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tblVehicleEF	LDT1	2.3240e-003	1.8300e-003
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tblVehicleEF	LDT1	0.31	0.24
tblVehicleEF	LDT1	0.12	0.12
tblVehicleEF	LDT1	0.04	0.03
tblVehicleEF	LDT1	0.21	0.82
tblVehicleEF	LDT1	0.25	0.38
tblVehicleEF	LDT1	2.9920e-003	3.0060e-003
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tblVehicleEF	LDT1	0.18	0.18
tblVehicleEF	LDT1	0.31	0.24
tblVehicleEF	LDT1	0.12	0.12
tblVehicleEF	LDT1	0.05	0.04
tblVehicleEF	LDT1	0.21	0.82
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tblVehicleEF	LDT1	0.02	6.8310e-003
tblVehicleEF	LDT1	0.02	0.06
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tblVehicleEF	LDT1	2.89	1.96
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tblVehicleEF	LDT1	0.20	0.25

tblVehicleEF	LDT1	2.5230e-003	1.9880e-003
tblVehicleEF	LDT1	3.4810e-003	2.6110e-003
tblVehicleEF	LDT1	2.3240e-003	1.8300e-003
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tblVehicleEF	LDT1	0.39	0.31
tblVehicleEF	LDT1	0.25	0.26
tblVehicleEF	LDT1	0.04	0.03
tblVehicleEF	LDT1	0.20	0.80
tblVehicleEF	LDT1	0.20	0.31
tblVehicleEF	LDT1	3.2820e-003	3.2630e-003
tblVehicleEF	LDT1	7.3800e-004	6.1800e-004
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tblVehicleEF	LDT1	0.39	0.31
tblVehicleEF	LDT1	0.25	0.26
tblVehicleEF	LDT1	0.06	0.04
tblVehicleEF	LDT1	0.20	0.80
tblVehicleEF	LDT1	0.22	0.35
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tblVehicleEF	LDT1	2.5230e-003	1.9880e-003

tblVehicleEF	LDT1	3.4810e-003	2.6110e-003
tblVehicleEF	LDT1	2.3240e-003	1.8300e-003
tblVehicleEF	LDT1	3.2010e-003	2.4010e-003
tblVehicleEF	LDT1	0.05	0.05
tblVehicleEF	LDT1	0.31	0.24
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.03	0.02
tblVehicleEF	LDT1	0.25	0.99
tblVehicleEF	LDT1	0.30	0.45
tblVehicleEF	LDT1	2.8750e-003	2.9010e-003
tblVehicleEF	LDT1	7.6500e-004	6.3800e-004
tblVehicleEF	LDT1	0.05	0.05
tblVehicleEF	LDT1	0.31	0.24
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.05	0.04
tblVehicleEF	LDT1	0.25	0.99
tblVehicleEF	LDT1	0.33	0.50
tblVehicleEF	LDT2	6.8690e-003	3.9960e-003
tblVehicleEF	LDT2	8.2560e-003	0.07
tblVehicleEF	LDT2	0.80	0.91
tblVehicleEF	LDT2	1.68	2.73
tblVehicleEF	LDT2	335.98	325.01
tblVehicleEF	LDT2	77.55	68.18
tblVehicleEF	LDT2	0.10	0.09
tblVehicleEF	LDT2	0.15	0.29
tblVehicleEF	LDT2	1.6800e-003	1.4680e-003
tblVehicleEF	LDT2	2.4290e-003	1.9140e-003

tblVehicleEF	LDT2	1.5450e-003	1.3520e-003
tblVehicleEF	LDT2	2.2330e-003	1.7600e-003
tblVehicleEF	LDT2	0.07	0.11
tblVehicleEF	LDT2	0.13	0.15
tblVehicleEF	LDT2	0.05	0.09
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.08	0.51
tblVehicleEF	LDT2	0.11	0.33
tblVehicleEF	LDT2	3.3670e-003	3.2150e-003
tblVehicleEF	LDT2	8.0400e-004	6.7500e-004
tblVehicleEF	LDT2	0.07	0.11
tblVehicleEF	LDT2	0.13	0.15
tblVehicleEF	LDT2	0.05	0.09
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.08	0.51
tblVehicleEF	LDT2	0.12	0.36
tblVehicleEF	LDT2	7.8980e-003	4.6270e-003
tblVehicleEF	LDT2	6.8030e-003	0.06
tblVehicleEF	LDT2	1.00	1.13
tblVehicleEF	LDT2	1.39	2.27
tblVehicleEF	LDT2	368.77	350.35
tblVehicleEF	LDT2	77.55	67.27
tblVehicleEF	LDT2	0.09	0.08
tblVehicleEF	LDT2	0.14	0.27
tblVehicleEF	LDT2	1.6800e-003	1.4680e-003
tblVehicleEF	LDT2	2.4290e-003	1.9140e-003
tblVehicleEF	LDT2	1.5450e-003	1.3520e-003

tblVehicleEF	LDT2	2.2330e-003	1.7600e-003
tblVehicleEF	LDT2	0.17	0.26
tblVehicleEF	LDT2	0.15	0.18
tblVehicleEF	LDT2	0.11	0.18
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.08	0.49
tblVehicleEF	LDT2	0.09	0.28
tblVehicleEF	LDT2	3.6970e-003	3.4660e-003
tblVehicleEF	LDT2	7.9900e-004	6.6600e-004
tblVehicleEF	LDT2	0.17	0.26
tblVehicleEF	LDT2	0.15	0.18
tblVehicleEF	LDT2	0.11	0.18
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.08	0.49
tblVehicleEF	LDT2	0.10	0.30
tblVehicleEF	LDT2	6.4420e-003	3.6920e-003
tblVehicleEF	LDT2	9.9020e-003	0.08
tblVehicleEF	LDT2	0.74	0.84
tblVehicleEF	LDT2	2.08	3.39
tblVehicleEF	LDT2	322.59	314.70
tblVehicleEF	LDT2	77.55	69.43
tblVehicleEF	LDT2	0.10	0.09
tblVehicleEF	LDT2	0.16	0.32
tblVehicleEF	LDT2	1.6800e-003	1.4680e-003
tblVehicleEF	LDT2	2.4290e-003	1.9140e-003
tblVehicleEF	LDT2	1.5450e-003	1.3520e-003
tblVehicleEF	LDT2	2.2330e-003	1.7600e-003

tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	0.13	0.15
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.10	0.60
tblVehicleEF	LDT2	0.13	0.40
tblVehicleEF	LDT2	3.2320e-003	3.1130e-003
tblVehicleEF	LDT2	8.1100e-004	6.8700e-004
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	0.13	0.15
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.10	0.61
tblVehicleEF	LDT2	0.15	0.43
tblVehicleEF	LHD1	4.4040e-003	4.0760e-003
tblVehicleEF	LHD1	0.02	9.9110e-003
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	0.13	0.16
tblVehicleEF	LHD1	1.12	0.96
tblVehicleEF	LHD1	1.96	0.84
tblVehicleEF	LHD1	9.54	9.59
tblVehicleEF	LHD1	679.25	756.26
tblVehicleEF	LHD1	25.86	9.10
tblVehicleEF	LHD1	0.11	0.10
tblVehicleEF	LHD1	2.11	1.46
tblVehicleEF	LHD1	0.85	0.26
tblVehicleEF	LHD1	1.1390e-003	1.1270e-003

tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	6.9000e-004	2.0200e-004
tblVehicleEF	LHD1	1.0900e-003	1.0790e-003
tblVehicleEF	LHD1	2.6050e-003	2.5630e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	6.3500e-004	1.8600e-004
tblVehicleEF	LHD1	3.0480e-003	2.6410e-003
tblVehicleEF	LHD1	0.09	0.07
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.3490e-003	1.1480e-003
tblVehicleEF	LHD1	0.15	0.13
tblVehicleEF	LHD1	0.27	0.46
tblVehicleEF	LHD1	0.20	0.06
tblVehicleEF	LHD1	9.5000e-005	9.2000e-005
tblVehicleEF	LHD1	6.6380e-003	7.3440e-003
tblVehicleEF	LHD1	2.9600e-004	9.0000e-005
tblVehicleEF	LHD1	3.0480e-003	2.6410e-003
tblVehicleEF	LHD1	0.09	0.07
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	1.3490e-003	1.1480e-003
tblVehicleEF	LHD1	0.18	0.15
tblVehicleEF	LHD1	0.27	0.46
tblVehicleEF	LHD1	0.22	0.07
tblVehicleEF	LHD1	4.4040e-003	4.0880e-003
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	0.01	0.01

tblVehicleEF	LHD1	0.13	0.16
tblVehicleEF	LHD1	1.14	0.97
tblVehicleEF	LHD1	1.82	0.78
tblVehicleEF	LHD1	9.54	9.59
tblVehicleEF	LHD1	679.25	756.30
tblVehicleEF	LHD1	25.86	9.00
tblVehicleEF	LHD1	0.11	0.10
tblVehicleEF	LHD1	2.01	1.38
tblVehicleEF	LHD1	0.80	0.25
tblVehicleEF	LHD1	1.1390e-003	1.1270e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	6.9000e-004	2.0200e-004
tblVehicleEF	LHD1	1.0900e-003	1.0790e-003
tblVehicleEF	LHD1	2.6050e-003	2.5630e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	6.3500e-004	1.8600e-004
tblVehicleEF	LHD1	7.1830e-003	6.2450e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	2.7660e-003	2.3730e-003
tblVehicleEF	LHD1	0.15	0.13
tblVehicleEF	LHD1	0.27	0.46
tblVehicleEF	LHD1	0.19	0.06
tblVehicleEF	LHD1	9.5000e-005	9.2000e-005
tblVehicleEF	LHD1	6.6380e-003	7.3440e-003
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tblVehicleEF	LHD1	7.1830e-003	6.2450e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	2.7660e-003	2.3730e-003
tblVehicleEF	LHD1	0.18	0.15
tblVehicleEF	LHD1	0.27	0.46
tblVehicleEF	LHD1	0.21	0.07
tblVehicleEF	LHD1	4.4040e-003	4.0630e-003
tblVehicleEF	LHD1	0.02	9.6990e-003
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	0.13	0.16
tblVehicleEF	LHD1	1.10	0.94
tblVehicleEF	LHD1	2.15	0.92
tblVehicleEF	LHD1	9.54	9.59
tblVehicleEF	LHD1	679.25	756.23
tblVehicleEF	LHD1	25.86	9.24
tblVehicleEF	LHD1	0.11	0.10
tblVehicleEF	LHD1	2.16	1.49
tblVehicleEF	LHD1	0.91	0.28
tblVehicleEF	LHD1	1.1390e-003	1.1270e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	6.9000e-004	2.0200e-004
tblVehicleEF	LHD1	1.0900e-003	1.0790e-003
tblVehicleEF	LHD1	2.6050e-003	2.5630e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	6.3500e-004	1.8600e-004

tblVehicleEF	LHD1	9.4400e-004	8.0400e-004
tblVehicleEF	LHD1	0.09	0.07
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	5.1300e-004	4.3200e-004
tblVehicleEF	LHD1	0.15	0.13
tblVehicleEF	LHD1	0.30	0.50
tblVehicleEF	LHD1	0.22	0.07
tblVehicleEF	LHD1	9.5000e-005	9.2000e-005
tblVehicleEF	LHD1	6.6380e-003	7.3430e-003
tblVehicleEF	LHD1	2.9900e-004	9.1000e-005
tblVehicleEF	LHD1	9.4400e-004	8.0400e-004
tblVehicleEF	LHD1	0.09	0.07
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	5.1300e-004	4.3200e-004
tblVehicleEF	LHD1	0.18	0.15
tblVehicleEF	LHD1	0.30	0.50
tblVehicleEF	LHD1	0.24	0.07
tblVehicleEF	LHD2	3.1920e-003	2.8120e-003
tblVehicleEF	LHD2	8.1930e-003	7.2240e-003
tblVehicleEF	LHD2	6.7120e-003	7.5750e-003
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.65	0.68
tblVehicleEF	LHD2	1.06	0.51
tblVehicleEF	LHD2	14.50	14.88
tblVehicleEF	LHD2	709.59	764.25
tblVehicleEF	LHD2	22.18	6.64
tblVehicleEF	LHD2	0.11	0.12

tblVehicleEF	LHD2	1.20	1.26
tblVehicleEF	LHD2	0.44	0.17
tblVehicleEF	LHD2	1.3280e-003	1.5190e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	3.5900e-004	1.0300e-004
tblVehicleEF	LHD2	1.2710e-003	1.4530e-003
tblVehicleEF	LHD2	2.7100e-003	2.7320e-003
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	3.3000e-004	9.5000e-005
tblVehicleEF	LHD2	1.1830e-003	1.3070e-003
tblVehicleEF	LHD2	0.03	0.04
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	5.5700e-004	5.9700e-004
tblVehicleEF	LHD2	0.12	0.12
tblVehicleEF	LHD2	0.07	0.23
tblVehicleEF	LHD2	0.09	0.04
tblVehicleEF	LHD2	1.4100e-004	1.4200e-004
tblVehicleEF	LHD2	6.8930e-003	7.3610e-003
tblVehicleEF	LHD2	2.4100e-004	6.6000e-005
tblVehicleEF	LHD2	1.1830e-003	1.3070e-003
tblVehicleEF	LHD2	0.03	0.04
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	5.5700e-004	5.9700e-004
tblVehicleEF	LHD2	0.14	0.14
tblVehicleEF	LHD2	0.07	0.23
tblVehicleEF	LHD2	0.10	0.04

tblVehicleEF	LHD2	3.1920e-003	2.8190e-003
tblVehicleEF	LHD2	8.2860e-003	7.2770e-003
tblVehicleEF	LHD2	6.3660e-003	7.1800e-003
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.66	0.69
tblVehicleEF	LHD2	0.99	0.47
tblVehicleEF	LHD2	14.50	14.88
tblVehicleEF	LHD2	709.59	764.26
tblVehicleEF	LHD2	22.18	6.58
tblVehicleEF	LHD2	0.11	0.12
tblVehicleEF	LHD2	1.14	1.20
tblVehicleEF	LHD2	0.42	0.16
tblVehicleEF	LHD2	1.3280e-003	1.5190e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	3.5900e-004	1.0300e-004
tblVehicleEF	LHD2	1.2710e-003	1.4530e-003
tblVehicleEF	LHD2	2.7100e-003	2.7320e-003
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	3.3000e-004	9.5000e-005
tblVehicleEF	LHD2	2.7760e-003	3.0770e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	1.1350e-003	1.2280e-003
tblVehicleEF	LHD2	0.12	0.12
tblVehicleEF	LHD2	0.07	0.23
tblVehicleEF	LHD2	0.09	0.04

tblVehicleEF	LHD2	1.4100e-004	1.4200e-004
tblVehicleEF	LHD2	6.8930e-003	7.3610e-003
tblVehicleEF	LHD2	2.4000e-004	6.5000e-005
tblVehicleEF	LHD2	2.7760e-003	3.0770e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	1.1350e-003	1.2280e-003
tblVehicleEF	LHD2	0.14	0.14
tblVehicleEF	LHD2	0.07	0.23
tblVehicleEF	LHD2	0.09	0.04
tblVehicleEF	LHD2	3.1920e-003	2.8030e-003
tblVehicleEF	LHD2	8.0870e-003	7.1620e-003
tblVehicleEF	LHD2	7.1310e-003	8.0490e-003
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.65	0.68
tblVehicleEF	LHD2	1.16	0.55
tblVehicleEF	LHD2	14.50	14.88
tblVehicleEF	LHD2	709.59	764.25
tblVehicleEF	LHD2	22.18	6.73
tblVehicleEF	LHD2	0.11	0.12
tblVehicleEF	LHD2	1.22	1.29
tblVehicleEF	LHD2	0.47	0.18
tblVehicleEF	LHD2	1.3280e-003	1.5190e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	3.5900e-004	1.0300e-004
tblVehicleEF	LHD2	1.2710e-003	1.4530e-003

tblVehicleEF	LHD2	2.7100e-003	2.7320e-003
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	3.3000e-004	9.5000e-005
tblVehicleEF	LHD2	3.7300e-004	4.0800e-004
tblVehicleEF	LHD2	0.03	0.04
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	2.1300e-004	2.2700e-004
tblVehicleEF	LHD2	0.12	0.12
tblVehicleEF	LHD2	0.08	0.25
tblVehicleEF	LHD2	0.10	0.04
tblVehicleEF	LHD2	1.4100e-004	1.4200e-004
tblVehicleEF	LHD2	6.8930e-003	7.3610e-003
tblVehicleEF	LHD2	2.4300e-004	6.7000e-005
tblVehicleEF	LHD2	3.7300e-004	4.0800e-004
tblVehicleEF	LHD2	0.03	0.04
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	2.1300e-004	2.2700e-004
tblVehicleEF	LHD2	0.14	0.14
tblVehicleEF	LHD2	0.08	0.25
tblVehicleEF	LHD2	0.11	0.04
tblVehicleEF	MCY	0.42	0.33
tblVehicleEF	MCY	0.16	0.25
tblVehicleEF	MCY	19.86	19.81
tblVehicleEF	MCY	10.05	8.90
tblVehicleEF	MCY	164.76	211.79
tblVehicleEF	MCY	46.75	61.91
tblVehicleEF	MCY	1.16	1.16

tblVehicleEF	MCY	0.32	0.27
tblVehicleEF	MCY	1.7890e-003	1.8140e-003
tblVehicleEF	MCY	3.3740e-003	2.9500e-003
tblVehicleEF	MCY	1.6740e-003	1.6970e-003
tblVehicleEF	MCY	3.1820e-003	2.7790e-003
tblVehicleEF	MCY	1.62	1.60
tblVehicleEF	MCY	0.96	0.94
tblVehicleEF	MCY	0.87	0.86
tblVehicleEF	MCY	2.21	2.20
tblVehicleEF	MCY	0.54	2.13
tblVehicleEF	MCY	2.19	1.93
tblVehicleEF	MCY	2.0360e-003	2.0960e-003
tblVehicleEF	MCY	6.9600e-004	6.1300e-004
tblVehicleEF	MCY	1.62	1.60
tblVehicleEF	MCY	0.96	0.94
tblVehicleEF	MCY	0.87	0.86
tblVehicleEF	MCY	2.71	2.71
tblVehicleEF	MCY	0.54	2.13
tblVehicleEF	MCY	2.38	2.10
tblVehicleEF	MCY	0.41	0.32
tblVehicleEF	MCY	0.14	0.22
tblVehicleEF	MCY	20.20	20.15
tblVehicleEF	MCY	9.13	8.03
tblVehicleEF	MCY	164.76	212.15
tblVehicleEF	MCY	46.75	59.57
tblVehicleEF	MCY	1.01	1.01
tblVehicleEF	MCY	0.29	0.25

tblVehicleEF	MCY	1.7890e-003	1.8140e-003
tblVehicleEF	MCY	3.3740e-003	2.9500e-003
tblVehicleEF	MCY	1.6740e-003	1.6970e-003
tblVehicleEF	MCY	3.1820e-003	2.7790e-003
tblVehicleEF	MCY	4.07	4.01
tblVehicleEF	MCY	1.47	1.45
tblVehicleEF	MCY	2.21	2.17
tblVehicleEF	MCY	2.16	2.15
tblVehicleEF	MCY	0.53	2.08
tblVehicleEF	MCY	1.87	1.64
tblVehicleEF	MCY	2.0390e-003	2.0990e-003
tblVehicleEF	MCY	6.7100e-004	5.8900e-004
tblVehicleEF	MCY	4.07	4.01
tblVehicleEF	MCY	1.47	1.45
tblVehicleEF	MCY	2.21	2.17
tblVehicleEF	MCY	2.65	2.65
tblVehicleEF	MCY	0.53	2.08
tblVehicleEF	MCY	2.03	1.78
tblVehicleEF	MCY	0.44	0.34
tblVehicleEF	MCY	0.20	0.31
tblVehicleEF	MCY	21.46	21.40
tblVehicleEF	MCY	11.83	10.52
tblVehicleEF	MCY	164.76	214.73
tblVehicleEF	MCY	46.75	65.91
tblVehicleEF	MCY	1.27	1.27
tblVehicleEF	MCY	0.34	0.29
tblVehicleEF	MCY	1.7890e-003	1.8140e-003

tblVehicleEF	MCY	3.3740e-003	2.9500e-003
tblVehicleEF	MCY	1.6740e-003	1.6970e-003
tblVehicleEF	MCY	3.1820e-003	2.7790e-003
tblVehicleEF	MCY	0.40	0.39
tblVehicleEF	MCY	0.95	0.93
tblVehicleEF	MCY	0.20	0.19
tblVehicleEF	MCY	2.33	2.32
tblVehicleEF	MCY	0.63	2.48
tblVehicleEF	MCY	2.66	2.36
tblVehicleEF	MCY	2.0650e-003	2.1250e-003
tblVehicleEF	MCY	7.4000e-004	6.5200e-004
tblVehicleEF	MCY	0.40	0.39
tblVehicleEF	MCY	0.95	0.93
tblVehicleEF	MCY	0.20	0.19
tblVehicleEF	MCY	2.85	2.85
tblVehicleEF	MCY	0.63	2.48
tblVehicleEF	MCY	2.90	2.57
tblVehicleEF	MDV	0.01	4.1520e-003
tblVehicleEF	MDV	0.02	0.08
tblVehicleEF	MDV	1.17	0.91
tblVehicleEF	MDV	3.27	3.22
tblVehicleEF	MDV	467.81	407.57
tblVehicleEF	MDV	108.87	86.27
tblVehicleEF	MDV	0.16	0.09
tblVehicleEF	MDV	0.35	0.36
tblVehicleEF	MDV	1.5840e-003	1.4320e-003
tblVehicleEF	MDV	2.2840e-003	1.8940e-003

tblVehicleEF	MDV	1.4600e-003	1.3210e-003
tblVehicleEF	MDV	2.1000e-003	1.7410e-003
tblVehicleEF	MDV	0.11	0.13
tblVehicleEF	MDV	0.21	0.18
tblVehicleEF	MDV	0.09	0.11
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	0.14	0.55
tblVehicleEF	MDV	0.25	0.42
tblVehicleEF	MDV	4.6860e-003	4.0290e-003
tblVehicleEF	MDV	1.1460e-003	8.5400e-004
tblVehicleEF	MDV	0.11	0.13
tblVehicleEF	MDV	0.21	0.18
tblVehicleEF	MDV	0.09	0.11
tblVehicleEF	MDV	0.04	0.03
tblVehicleEF	MDV	0.14	0.55
tblVehicleEF	MDV	0.27	0.46
tblVehicleEF	MDV	0.01	4.8320e-003
tblVehicleEF	MDV	0.02	0.07
tblVehicleEF	MDV	1.45	1.13
tblVehicleEF	MDV	2.72	2.67
tblVehicleEF	MDV	512.29	434.17
tblVehicleEF	MDV	108.87	85.17
tblVehicleEF	MDV	0.15	0.08
tblVehicleEF	MDV	0.33	0.34
tblVehicleEF	MDV	1.5840e-003	1.4320e-003
tblVehicleEF	MDV	2.2840e-003	1.8940e-003
tblVehicleEF	MDV	1.4600e-003	1.3210e-003

tblVehicleEF	MDV	2.1000e-003	1.7410e-003
tblVehicleEF	MDV	0.26	0.30
tblVehicleEF	MDV	0.25	0.21
tblVehicleEF	MDV	0.19	0.22
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	0.13	0.54
tblVehicleEF	MDV	0.21	0.35
tblVehicleEF	MDV	5.1340e-003	4.2930e-003
tblVehicleEF	MDV	1.1360e-003	8.4300e-004
tblVehicleEF	MDV	0.26	0.30
tblVehicleEF	MDV	0.25	0.21
tblVehicleEF	MDV	0.19	0.22
tblVehicleEF	MDV	0.05	0.03
tblVehicleEF	MDV	0.13	0.54
tblVehicleEF	MDV	0.22	0.38
tblVehicleEF	MDV	0.01	3.8320e-003
tblVehicleEF	MDV	0.02	0.10
tblVehicleEF	MDV	1.08	0.84
tblVehicleEF	MDV	4.06	4.00
tblVehicleEF	MDV	449.66	396.75
tblVehicleEF	MDV	108.87	87.79
tblVehicleEF	MDV	0.17	0.10
tblVehicleEF	MDV	0.39	0.40
tblVehicleEF	MDV	1.5840e-003	1.4320e-003
tblVehicleEF	MDV	2.2840e-003	1.8940e-003
tblVehicleEF	MDV	1.4600e-003	1.3210e-003
tblVehicleEF	MDV	2.1000e-003	1.7410e-003

tblVehicleEF	MDV	0.03	0.04
tblVehicleEF	MDV	0.21	0.18
tblVehicleEF	MDV	0.03	0.04
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	0.16	0.65
tblVehicleEF	MDV	0.30	0.50
tblVehicleEF	MDV	4.5030e-003	3.9220e-003
tblVehicleEF	MDV	1.1600e-003	8.6900e-004
tblVehicleEF	MDV	0.03	0.04
tblVehicleEF	MDV	0.21	0.18
tblVehicleEF	MDV	0.03	0.04
tblVehicleEF	MDV	0.04	0.02
tblVehicleEF	MDV	0.16	0.65
tblVehicleEF	MDV	0.33	0.55
tblVehicleEF	MH	0.03	6.0220e-003
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	2.28	0.47
tblVehicleEF	MH	5.67	0.00
tblVehicleEF	MH	1,219.50	1,037.86
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tblVehicleEF	MH	1.71	5.04
tblVehicleEF	MH	0.84	0.00
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	0.04	0.12
tblVehicleEF	MH	1.0880e-003	0.00
tblVehicleEF	MH	3.2510e-003	4.0000e-003
tblVehicleEF	MH	0.04	0.12

tblVehicleEF	MH	1.0000e-003	0.00
tblVehicleEF	MH	1.41	0.00
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tblVehicleEF	MH	0.11	0.13
tblVehicleEF	MH	0.03	0.00
tblVehicleEF	MH	0.33	0.00
tblVehicleEF	MH	0.01	9.8120e-003
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tblVehicleEF	MH	0.08	0.00
tblVehicleEF	MH	0.39	0.00
tblVehicleEF	MH	0.15	0.15
tblVehicleEF	MH	0.03	0.00
tblVehicleEF	MH	0.36	0.00
tblVehicleEF	MH	0.03	6.0220e-003
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tblVehicleEF	MH	5.12	0.00
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tblVehicleEF	MH	56.60	0.00
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tblVehicleEF	MH	0.79	0.00
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tblVehicleEF	MH	0.04	0.12
tblVehicleEF	MH	1.0880e-003	0.00
tblVehicleEF	MH	3.2510e-003	4.0000e-003

tblVehicleEF	MH	0.04	0.12
tblVehicleEF	MH	1.0000e-003	0.00
tblVehicleEF	MH	3.37	0.00
tblVehicleEF	MH	0.10	0.00
tblVehicleEF	MH	0.78	0.00
tblVehicleEF	MH	0.11	0.13
tblVehicleEF	MH	0.03	0.00
tblVehicleEF	MH	0.31	0.00
tblVehicleEF	MH	0.01	9.8120e-003
tblVehicleEF	MH	6.5500e-004	0.00
tblVehicleEF	MH	3.37	0.00
tblVehicleEF	MH	0.10	0.00
tblVehicleEF	MH	0.78	0.00
tblVehicleEF	MH	0.16	0.15
tblVehicleEF	MH	0.03	0.00
tblVehicleEF	MH	0.34	0.00
tblVehicleEF	MH	0.03	6.0220e-003
tblVehicleEF	MH	0.03	0.00
tblVehicleEF	MH	2.18	0.47
tblVehicleEF	MH	6.42	0.00
tblVehicleEF	MH	1,219.50	1,037.86
tblVehicleEF	MH	56.60	0.00
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tblVehicleEF	MH	3.2510e-003	4.0000e-003
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tblVehicleEF	MH	1.0000e-003	0.00
tblVehicleEF	MH	0.41	0.00
tblVehicleEF	MH	0.09	0.00
tblVehicleEF	MH	0.18	0.00
tblVehicleEF	MH	0.11	0.13
tblVehicleEF	MH	0.03	0.00
tblVehicleEF	MH	0.36	0.00
tblVehicleEF	MH	0.01	9.8120e-003
tblVehicleEF	MH	6.7800e-004	0.00
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tblVehicleEF	MH	0.09	0.00
tblVehicleEF	MH	0.18	0.00
tblVehicleEF	MH	0.15	0.15
tblVehicleEF	MH	0.03	0.00
tblVehicleEF	MH	0.39	0.00
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tblVehicleEF	MHD	4.9400e-003	2.3780e-003
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tblVehicleEF	MHD	11.87	1.68
tblVehicleEF	MHD	1.8100e-004	5.7100e-004
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tblVehicleEF	MHD	3.2500e-003	8.2810e-003
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tblVehicleEF	MHD	1.3080e-003	7.6200e-004
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tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	5.7600e-004	3.3800e-004
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tblVehicleEF	MHD	0.02	0.14
tblVehicleEF	MHD	0.31	0.06
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tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	6.1200e-004	1.0600e-004
tblVehicleEF	MHD	1.3080e-003	7.6200e-004
tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	0.03	0.03
tblVehicleEF	MHD	5.7600e-004	3.3800e-004
tblVehicleEF	MHD	0.06	0.03
tblVehicleEF	MHD	0.02	0.14
tblVehicleEF	MHD	0.34	0.06
tblVehicleEF	MHD	0.02	3.8810e-003
tblVehicleEF	MHD	5.0360e-003	2.4350e-003

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tblVehicleEF	MHD	0.39	0.32
tblVehicleEF	MHD	4.87	1.18
tblVehicleEF	MHD	164.07	81.95
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tblVehicleEF	MHD	1.18	1.61
tblVehicleEF	MHD	11.83	1.67
tblVehicleEF	MHD	1.5200e-004	4.8500e-004
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tblVehicleEF	MHD	1.4600e-004	4.6400e-004
tblVehicleEF	MHD	3.2500e-003	8.2810e-003
tblVehicleEF	MHD	7.3900e-004	1.1900e-004
tblVehicleEF	MHD	3.1350e-003	1.8240e-003
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tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	1.2330e-003	7.2500e-004
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.02	0.14
tblVehicleEF	MHD	0.29	0.05
tblVehicleEF	MHD	1.5750e-003	7.7800e-004
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tblVehicleEF	MHD	6.0500e-004	1.0500e-004
tblVehicleEF	MHD	3.1350e-003	1.8240e-003

tblVehicleEF	MHD	0.05	0.03
tblVehicleEF	MHD	0.03	0.03
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tblVehicleEF	MHD	0.32	0.06
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tblVehicleEF	MHD	2.2000e-004	6.9100e-004
tblVehicleEF	MHD	3.4030e-003	8.6620e-003
tblVehicleEF	MHD	8.0400e-004	1.2900e-004
tblVehicleEF	MHD	2.1000e-004	6.6100e-004
tblVehicleEF	MHD	3.2500e-003	8.2810e-003
tblVehicleEF	MHD	7.3900e-004	1.1900e-004
tblVehicleEF	MHD	3.8400e-004	2.2500e-004
tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	0.02	0.02

tblVehicleEF	MHD	2.0600e-004	1.2100e-004
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tblVehicleEF	MHD	0.02	0.15
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tblVehicleEF	MHD	1.3690e-003	7.7300e-004
tblVehicleEF	MHD	0.01	0.01
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tblVehicleEF	MHD	3.8400e-004	2.2500e-004
tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	0.03	0.03
tblVehicleEF	MHD	2.0600e-004	1.2100e-004
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tblVehicleEF	MHD	0.02	0.15
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tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.03	0.03
tblVehicleEF	OBUS	0.24	0.52
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tblVehicleEF	OBUS	0.88	1.13
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tblVehicleEF	OBUS	1.8000e-005	8.1000e-005

tblVehicleEF	OBUS	2.4960e-003	5.9500e-003
tblVehicleEF	OBUS	1.0080e-003	2.6200e-004
tblVehicleEF	OBUS	1.7000e-005	7.8000e-005
tblVehicleEF	OBUS	2.3640e-003	5.6650e-003
tblVehicleEF	OBUS	9.2700e-004	2.4100e-004
tblVehicleEF	OBUS	3.2910e-003	3.9410e-003
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tblVehicleEF	OBUS	0.06	0.07
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tblVehicleEF	OBUS	0.42	0.14
tblVehicleEF	OBUS	9.0000e-004	6.4800e-004
tblVehicleEF	OBUS	0.01	0.02
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tblVehicleEF	OBUS	3.2910e-003	3.9410e-003
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tblVehicleEF	OBUS	0.04	0.07
tblVehicleEF	OBUS	1.0570e-003	1.2650e-003
tblVehicleEF	OBUS	0.08	0.10
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tblVehicleEF	OBUS	0.01	9.1630e-003
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tblVehicleEF	OBUS	0.03	0.02
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tblVehicleEF	OBUS	9.4400e-004	6.4200e-004
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tblVehicleEF	OBUS	2.2000e-005	9.4000e-005
tblVehicleEF	OBUS	2.4960e-003	5.9500e-003
tblVehicleEF	OBUS	1.0080e-003	2.6200e-004
tblVehicleEF	OBUS	2.1000e-005	9.0000e-005
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tblVehicleEF	OBUS	0.03	0.05
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tblVehicleEF	OBUS	0.06	0.45

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tblVehicleEF	SBUS	0.65	0.10
tblVehicleEF	SBUS	1.8620e-003	1.5700e-004
tblVehicleEF	SBUS	0.13	0.12
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	0.38	0.01
tblVehicleEF	SBUS	0.01	3.1280e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	4.9700e-004	1.5000e-005
tblVehicleEF	SBUS	6.0120e-003	5.3900e-004
tblVehicleEF	SBUS	0.04	3.6710e-003
tblVehicleEF	SBUS	0.93	0.14
tblVehicleEF	SBUS	1.8620e-003	1.5700e-004
tblVehicleEF	SBUS	0.16	0.14
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	0.42	0.01
tblVehicleEF	SBUS	0.82	0.02
tblVehicleEF	SBUS	0.02	8.6180e-003
tblVehicleEF	SBUS	0.08	1.7040e-003
tblVehicleEF	SBUS	5.36	1.02
tblVehicleEF	SBUS	1.25	0.69
tblVehicleEF	SBUS	4.95	0.22

tblVehicleEF	SBUS	1,322.49	341.71
tblVehicleEF	SBUS	1,113.27	1,109.46
tblVehicleEF	SBUS	36.84	1.38
tblVehicleEF	SBUS	11.49	4.11
tblVehicleEF	SBUS	4.17	6.71
tblVehicleEF	SBUS	15.25	0.66
tblVehicleEF	SBUS	9.0310e-003	4.4330e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.02	0.04
tblVehicleEF	SBUS	5.8400e-004	2.1000e-005
tblVehicleEF	SBUS	8.6410e-003	4.2420e-003
tblVehicleEF	SBUS	2.7210e-003	2.8540e-003
tblVehicleEF	SBUS	0.02	0.04
tblVehicleEF	SBUS	5.3700e-004	1.9000e-005
tblVehicleEF	SBUS	0.01	1.2980e-003
tblVehicleEF	SBUS	0.05	4.2470e-003
tblVehicleEF	SBUS	0.65	0.10
tblVehicleEF	SBUS	3.7800e-003	3.2900e-004
tblVehicleEF	SBUS	0.13	0.12
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	0.31	9.8350e-003
tblVehicleEF	SBUS	0.01	3.2370e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	4.5600e-004	1.4000e-005
tblVehicleEF	SBUS	0.01	1.2980e-003
tblVehicleEF	SBUS	0.05	4.2470e-003
tblVehicleEF	SBUS	0.92	0.14

tblVehicleEF	SBUS	3.7800e-003	3.2900e-004
tblVehicleEF	SBUS	0.16	0.14
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	0.34	0.01
tblVehicleEF	SBUS	0.82	0.02
tblVehicleEF	SBUS	0.02	8.3660e-003
tblVehicleEF	SBUS	0.12	2.5950e-003
tblVehicleEF	SBUS	5.69	1.13
tblVehicleEF	SBUS	1.18	0.66
tblVehicleEF	SBUS	10.48	0.46
tblVehicleEF	SBUS	1,170.17	314.20
tblVehicleEF	SBUS	1,113.27	1,109.41
tblVehicleEF	SBUS	36.84	1.78
tblVehicleEF	SBUS	10.64	3.85
tblVehicleEF	SBUS	4.50	7.21
tblVehicleEF	SBUS	15.35	0.66
tblVehicleEF	SBUS	0.01	6.3810e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.02	0.04
tblVehicleEF	SBUS	5.8400e-004	2.1000e-005
tblVehicleEF	SBUS	0.01	6.1050e-003
tblVehicleEF	SBUS	2.7210e-003	2.8540e-003
tblVehicleEF	SBUS	0.02	0.04
tblVehicleEF	SBUS	5.3700e-004	1.9000e-005
tblVehicleEF	SBUS	1.8860e-003	1.6200e-004
tblVehicleEF	SBUS	0.04	3.5820e-003
tblVehicleEF	SBUS	0.65	0.10

tblVehicleEF	SBUS	8.3900e-004	6.8000e-005
tblVehicleEF	SBUS	0.13	0.12
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	0.47	0.01
tblVehicleEF	SBUS	0.01	2.9770e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	5.4800e-004	1.8000e-005
tblVehicleEF	SBUS	1.8860e-003	1.6200e-004
tblVehicleEF	SBUS	0.04	3.5820e-003
tblVehicleEF	SBUS	0.93	0.14
tblVehicleEF	SBUS	8.3900e-004	6.8000e-005
tblVehicleEF	SBUS	0.16	0.14
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	0.51	0.02
tblVehicleEF	UBUS	0.81	3.6810e-003
tblVehicleEF	UBUS	0.09	0.01
tblVehicleEF	UBUS	7.82	0.04
tblVehicleEF	UBUS	16.86	0.88
tblVehicleEF	UBUS	1,907.38	293.69
tblVehicleEF	UBUS	163.75	9.69
tblVehicleEF	UBUS	6.12	0.05
tblVehicleEF	UBUS	11.84	0.09
tblVehicleEF	UBUS	0.45	0.02
tblVehicleEF	UBUS	0.01	2.6270e-003
tblVehicleEF	UBUS	0.10	6.8400e-004
tblVehicleEF	UBUS	1.4610e-003	1.1700e-004
tblVehicleEF	UBUS	0.19	0.01

tblVehicleEF	UBUS	3.0000e-003	6.5700e-004
tblVehicleEF	UBUS	0.10	6.4200e-004
tblVehicleEF	UBUS	1.3440e-003	1.0800e-004
tblVehicleEF	UBUS	0.01	6.8600e-004
tblVehicleEF	UBUS	0.15	3.5730e-003
tblVehicleEF	UBUS	5.0930e-003	2.5900e-004
tblVehicleEF	UBUS	0.74	3.0480e-003
tblVehicleEF	UBUS	0.03	0.01
tblVehicleEF	UBUS	1.23	0.04
tblVehicleEF	UBUS	0.01	2.8740e-003
tblVehicleEF	UBUS	1.9400e-003	9.6000e-005
tblVehicleEF	UBUS	0.01	6.8600e-004
tblVehicleEF	UBUS	0.15	3.5730e-003
tblVehicleEF	UBUS	5.0930e-003	2.5900e-004
tblVehicleEF	UBUS	1.61	7.1110e-003
tblVehicleEF	UBUS	0.03	0.01
tblVehicleEF	UBUS	1.35	0.04
tblVehicleEF	UBUS	0.83	3.7040e-003
tblVehicleEF	UBUS	0.08	8.9370e-003
tblVehicleEF	UBUS	7.98	0.04
tblVehicleEF	UBUS	13.29	0.72
tblVehicleEF	UBUS	1,907.38	293.69
tblVehicleEF	UBUS	163.75	9.42
tblVehicleEF	UBUS	5.77	0.05
tblVehicleEF	UBUS	11.71	0.09
tblVehicleEF	UBUS	0.45	0.02
tblVehicleEF	UBUS	0.01	2.6270e-003

tblVehicleEF	UBUS	0.10	6.8400e-004
tblVehicleEF	UBUS	1.4610e-003	1.1700e-004
tblVehicleEF	UBUS	0.19	0.01
tblVehicleEF	UBUS	3.0000e-003	6.5700e-004
tblVehicleEF	UBUS	0.10	6.4200e-004
tblVehicleEF	UBUS	1.3440e-003	1.0800e-004
tblVehicleEF	UBUS	0.03	1.6650e-003
tblVehicleEF	UBUS	0.18	5.0800e-003
tblVehicleEF	UBUS	0.01	5.9100e-004
tblVehicleEF	UBUS	0.77	3.1110e-003
tblVehicleEF	UBUS	0.03	0.01
tblVehicleEF	UBUS	1.06	0.04
tblVehicleEF	UBUS	0.01	2.8740e-003
tblVehicleEF	UBUS	1.8780e-003	9.3000e-005
tblVehicleEF	UBUS	0.03	1.6650e-003
tblVehicleEF	UBUS	0.18	5.0800e-003
tblVehicleEF	UBUS	0.01	5.9100e-004
tblVehicleEF	UBUS	1.66	7.2030e-003
tblVehicleEF	UBUS	0.03	0.01
tblVehicleEF	UBUS	1.17	0.04
tblVehicleEF	UBUS	0.80	3.6560e-003
tblVehicleEF	UBUS	0.11	0.01
tblVehicleEF	UBUS	7.65	0.04
tblVehicleEF	UBUS	21.59	1.09
tblVehicleEF	UBUS	1,907.38	293.69
tblVehicleEF	UBUS	163.75	10.03
tblVehicleEF	UBUS	6.29	0.06

tblVehicleEF	UBUS	12.00	0.10
tblVehicleEF	UBUS	0.45	0.02
tblVehicleEF	UBUS	0.01	2.6270e-003
tblVehicleEF	UBUS	0.10	6.8400e-004
tblVehicleEF	UBUS	1.4610e-003	1.1700e-004
tblVehicleEF	UBUS	0.19	0.01
tblVehicleEF	UBUS	3.0000e-003	6.5700e-004
tblVehicleEF	UBUS	0.10	6.4200e-004
tblVehicleEF	UBUS	1.3440e-003	1.0800e-004
tblVehicleEF	UBUS	4.0080e-003	1.9400e-004
tblVehicleEF	UBUS	0.16	3.4040e-003
tblVehicleEF	UBUS	2.2040e-003	8.7000e-005
tblVehicleEF	UBUS	0.71	2.9780e-003
tblVehicleEF	UBUS	0.03	0.02
tblVehicleEF	UBUS	1.44	0.05
tblVehicleEF	UBUS	0.01	2.8740e-003
tblVehicleEF	UBUS	2.0210e-003	9.9000e-005
tblVehicleEF	UBUS	4.0080e-003	1.9400e-004
tblVehicleEF	UBUS	0.16	3.4040e-003
tblVehicleEF	UBUS	2.2040e-003	8.7000e-005
tblVehicleEF	UBUS	1.57	7.0090e-003
tblVehicleEF	UBUS	0.03	0.02
tblVehicleEF	UBUS	1.57	0.05
tblVehicleTrips	CC_TTP	80.20	0.00
tblVehicleTrips	CC_TTP	78.80	0.00
tblVehicleTrips	CC_TTP	72.50	0.00
tblVehicleTrips	CC_TTP	62.00	0.00

tblVehicleTrips	CC_TTP	64.70	0.00
tblVehicleTrips	CNW_TL	6.60	78.35
tblVehicleTrips	CNW_TL	6.60	78.35
tblVehicleTrips	CNW_TL	6.60	78.35
tblVehicleTrips	CNW_TL	6.60	78.35
tblVehicleTrips	CNW_TL	6.60	78.35
tblVehicleTrips	CNW_TTP	19.00	100.00
tblVehicleTrips	CNW_TTP	19.00	100.00
tblVehicleTrips	CNW_TTP	19.00	100.00
tblVehicleTrips	CNW_TTP	19.00	100.00
tblVehicleTrips	CNW_TTP	19.00	100.00
tblVehicleTrips	CW_TTP	0.80	0.00
tblVehicleTrips	CW_TTP	2.20	0.00
tblVehicleTrips	CW_TTP	8.50	0.00
tblVehicleTrips	CW_TTP	19.00	0.00
tblVehicleTrips	CW_TTP	16.30	0.00
tblVehicleTrips	DV_TP	21.00	0.00
tblVehicleTrips	DV_TP	21.00	0.00
tblVehicleTrips	DV_TP	20.00	0.00
tblVehicleTrips	DV_TP	38.00	0.00
tblVehicleTrips	DV_TP	35.00	0.00
tblVehicleTrips	PB_TP	65.00	0.00
tblVehicleTrips	PB_TP	50.00	0.00
tblVehicleTrips	PB_TP	43.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PR_TP	14.00	100.00

tblVehicleTrips	PR_TP	29.00	100.00
tblVehicleTrips	PR_TP	37.00	100.00
tblVehicleTrips	PR_TP	58.00	100.00
tblVehicleTrips	PR_TP	54.00	100.00
tblVehicleTrips	ST_TR	1,448.33	27.90
tblVehicleTrips	ST_TR	722.03	65.91
tblVehicleTrips	ST_TR	158.37	64.73
tblVehicleTrips	ST_TR	5.63	3.47
tblVehicleTrips	ST_TR	49.97	54.17
tblVehicleTrips	SU_TR	1,182.08	27.90
tblVehicleTrips	SU_TR	542.72	65.91
tblVehicleTrips	SU_TR	131.84	64.73
tblVehicleTrips	SU_TR	5.63	3.47
tblVehicleTrips	SU_TR	25.24	54.17
tblVehicleTrips	WD_TR	845.60	27.90
tblVehicleTrips	WD_TR	496.12	65.91
tblVehicleTrips	WD_TR	127.15	64.73
tblVehicleTrips	WD_TR	5.63	3.47
tblVehicleTrips	WD_TR	42.70	54.17
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00

tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	IndoorWaterUseRate	1,722,926.85	0.00
tblWater	IndoorWaterUseRate	2,989,807.07	0.00
tblWater	IndoorWaterUseRate	3,044,443.14	0.00
tblWater	IndoorWaterUseRate	4,743,585.99	0.00
tblWater	IndoorWaterUseRate	887,388.81	0.00
tblWater	OutdoorWaterUseRate	1,055,987.42	0.00
tblWater	OutdoorWaterUseRate	190,838.75	0.00
tblWater	OutdoorWaterUseRate	194,326.16	0.00
tblWater	OutdoorWaterUseRate	527,065.11	0.00
tblWater	OutdoorWaterUseRate	543,883.46	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Area	0.6788	9.0000e-005	0.0101	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0196	0.0196	5.0000e-005	0.0000	0.0209
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	2.9354	251.7099	32.7505	1.2933	39.7641	2.7611	42.5252	10.9279	2.6418	13.5697	0.0000	124,262.9149	124,262.9149	0.2536	0.0000	124,269.2545
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.6142**	**251.7100**	**32.7606**	**1.2933**	**39.7641**	**2.7612**	**42.5252**	**10.9279**	**2.6418**	**13.5698**	**0.0000**	**124,262.9345**	**124,262.9345**	**0.2536**	**0.0000**	**124,269.2754**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.6788	9.0000e-005	0.0101	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0196	0.0196	5.0000e-005	0.0000	0.0209
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	2.9354	251.7099	32.7505	1.2933	39.7641	2.7611	42.5252	10.9279	2.6418	13.5697	0.0000	124,262.9149	124,262.9149	0.2536	0.0000	124,269.2545
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.6142**	**251.7100**	**32.7606**	**1.2933**	**39.7641**	**2.7612**	**42.5252**	**10.9279**	**2.6418**	**13.5698**	**0.0000**	**124,262.9345**	**124,262.9345**	**0.2536**	**0.0000**	**124,269.2754**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.9354	251.7099	32.7505	1.2933	39.7641	2.7611	42.5252	10.9279	2.6418	13.5697	0.0000	124,262.9	124,262.91	0.2536	0.0000	124,269.2
Unmitigated	2.9354	251.7099	32.7505	1.2933	39.7641	2.7611	42.5252	10.9279	2.6418	13.5697	0.0000	124,262.9149	124,262.9149	0.2536	0.0000	124,269.2545

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Convenience Market With Gas Pumps	648.95	648.95	648.95	18,507,235	18,507,235
Fast Food Restaurant with Drive Thru	649.16	649.16	649.16	18,513,231	18,513,231
High Turnover (Sit Down Restaurant)	649.23	649.23	649.23	18,515,160	18,515,160
Motel	648.89	648.89	648.89	18,505,410	18,505,410
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	648.97	648.97	648.97	18,507,651	18,507,651
Total	3,245.21	3,245.21	3,245.21	92,548,688	92,548,688

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Convenience Market With Gas	14.70	6.60	78.35	0.00	0.00	100.00	100	0	0
Fast Food Restaurant with Drive	14.70	6.60	78.35	0.00	0.00	100.00	100	0	0
High Turnover (Sit Down	14.70	6.60	78.35	0.00	0.00	100.00	100	0	0
Motel	14.70	6.60	78.35	0.00	0.00	100.00	100	0	0
Other Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Parking Lot	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Regional Shopping Center	14.70	6.60	78.35	0.00	0.00	100.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Convenience Market With Gas Pumps	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Fast Food Restaurant with Drive Thru	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000
High Turnover (Sit Down Restaurant)	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Motel	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Other Asphalt Surfaces	0.503527	0.027411	0.149893	0.110100	0.017112	0.004226	0.011648	0.165560	0.001710	0.001695	0.005548	0.000922	0.000648
Other Non-Asphalt Surfaces	0.503527	0.027411	0.149893	0.110100	0.017112	0.004226	0.011648	0.165560	0.001710	0.001695	0.005548	0.000922	0.000648
Parking Lot	0.503527	0.027411	0.149893	0.110100	0.017112	0.004226	0.011648	0.165560	0.001710	0.001695	0.005548	0.000922	0.000648
Regional Shopping Center	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000

CalEEMod Output: Phase 1 Operation – Year 2040 Proposed Project (Main)

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Phase 1 Operation Year 2040

Kings County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	494.02	1000sqft	11.34	494,021.30	0
Other Non-Asphalt Surfaces	354.34	1000sqft	14.33	0.00	0
Parking Lot	5.75	Acre	5.75	250,470.00	0
Fast Food Restaurant with Drive Thru	9.85	1000sqft	0.23	9,847.00	0
High Turnover (Sit Down Restaurant)	10.03	1000sqft	0.23	10,026.00	0
Motel	187.00	Room	0.61	106,131.00	0
Convenience Market With Gas Pumps	23.26	1000sqft	0.53	23,261.00	0
Regional Shopping Center	11.98	1000sqft	0.28	11,980.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	37
Climate Zone	3			**Operational Year**	2040
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	135.0507365	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See assumptions file

Land Use - See assumptions file

Construction Phase -

Vehicle Trips - See assumptions file.

Area Coating - See assumptions file.

Water And Wastewater - See assumptions file.

Solid Waste - See assumptions file.

Energy Mitigation -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	44669	15208
tblFleetMix	HHD	0.16	0.00
tblFleetMix	HHD	0.16	0.00
tblFleetMix	HHD	0.16	0.00
tblFleetMix	HHD	0.16	0.00
tblFleetMix	HHD	0.16	0.17
tblFleetMix	HHD	0.16	0.17
tblFleetMix	HHD	0.16	0.17
tblFleetMix	HHD	0.16	0.00
tblFleetMix	LDA	0.53	0.65
tblFleetMix	LDA	0.53	0.65
tblFleetMix	LDA	0.53	0.65
tblFleetMix	LDA	0.53	0.65
tblFleetMix	LDA	0.53	0.50
tblFleetMix	LDA	0.53	0.50

tblFleetMix	LDA	0.53	0.50
tblFleetMix	LDA	0.53	0.65
tblFleetMix	LDT1	0.03	0.03
tblFleetMix	LDT1	0.03	0.03
tblFleetMix	LDT1	0.03	0.03
tblFleetMix	LDT1	0.03	0.03
tblFleetMix	LDT1	0.03	0.03
tblFleetMix	LDT1	0.03	0.03
tblFleetMix	LDT1	0.03	0.03
tblFleetMix	LDT1	0.03	0.03
tblFleetMix	LDT2	0.16	0.19
tblFleetMix	LDT2	0.16	0.19
tblFleetMix	LDT2	0.16	0.19
tblFleetMix	LDT2	0.16	0.19
tblFleetMix	LDT2	0.16	0.15
tblFleetMix	LDT2	0.16	0.15
tblFleetMix	LDT2	0.16	0.15
tblFleetMix	LDT2	0.16	0.19
tblFleetMix	LHD1	8.0700e-003	9.8460e-003
tblFleetMix	LHD1	8.0700e-003	9.8460e-003
tblFleetMix	LHD1	8.0700e-003	9.8460e-003
tblFleetMix	LHD1	8.0700e-003	9.8460e-003
tblFleetMix	LHD1	8.0700e-003	0.02
tblFleetMix	LHD1	8.0700e-003	0.02
tblFleetMix	LHD1	8.0700e-003	0.02
tblFleetMix	LHD1	8.0700e-003	9.8460e-003
tblFleetMix	LHD2	3.3410e-003	0.00

tblFleetMix	LHD2	3.3410e-003	0.00
tblFleetMix	LHD2	3.3410e-003	0.00
tblFleetMix	LHD2	3.3410e-003	0.00
tblFleetMix	LHD2	3.3410e-003	4.2260e-003
tblFleetMix	LHD2	3.3410e-003	4.2260e-003
tblFleetMix	LHD2	3.3410e-003	4.2260e-003
tblFleetMix	LHD2	3.3410e-003	0.00
tblFleetMix	MCY	4.9520e-003	6.0420e-003
tblFleetMix	MCY	4.9520e-003	6.0420e-003
tblFleetMix	MCY	4.9520e-003	6.0420e-003
tblFleetMix	MCY	4.9520e-003	6.0420e-003
tblFleetMix	MCY	4.9520e-003	5.5480e-003
tblFleetMix	MCY	4.9520e-003	5.5480e-003
tblFleetMix	MCY	4.9520e-003	5.5480e-003
tblFleetMix	MCY	4.9520e-003	6.0420e-003
tblFleetMix	MDV	0.09	0.11
tblFleetMix	MDV	0.09	0.11
tblFleetMix	MDV	0.09	0.11
tblFleetMix	MDV	0.09	0.11
tblFleetMix	MDV	0.09	0.11
tblFleetMix	MDV	0.09	0.11
tblFleetMix	MDV	0.09	0.11
tblFleetMix	MDV	0.09	0.11
tblFleetMix	MH	4.2200e-004	0.00
tblFleetMix	MH	4.2200e-004	0.00
tblFleetMix	MH	4.2200e-004	0.00
tblFleetMix	MH	4.2200e-004	0.00

tblFleetMix	MH	4.2200e-004	6.4800e-004
tblFleetMix	MH	4.2200e-004	6.4800e-004
tblFleetMix	MH	4.2200e-004	6.4800e-004
tblFleetMix	MH	4.2200e-004	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	MHD	0.01	0.01
tblFleetMix	MHD	0.01	0.01
tblFleetMix	MHD	0.01	0.01
tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	1.5960e-003	0.00
tblFleetMix	OBUS	1.5960e-003	0.00
tblFleetMix	OBUS	1.5960e-003	0.00
tblFleetMix	OBUS	1.5960e-003	0.00
tblFleetMix	OBUS	1.5960e-003	1.7100e-003
tblFleetMix	OBUS	1.5960e-003	1.7100e-003
tblFleetMix	OBUS	1.5960e-003	1.7100e-003
tblFleetMix	OBUS	1.5960e-003	0.00
tblFleetMix	SBUS	7.4000e-004	0.00
tblFleetMix	SBUS	7.4000e-004	0.00
tblFleetMix	SBUS	7.4000e-004	0.00
tblFleetMix	SBUS	7.4000e-004	0.00
tblFleetMix	SBUS	7.4000e-004	9.2200e-004
tblFleetMix	SBUS	7.4000e-004	9.2200e-004
tblFleetMix	SBUS	7.4000e-004	9.2200e-004

tblFleetMix	SBUS	7.4000e-004	0.00
tblFleetMix	UBUS	1.1990e-003	0.00
tblFleetMix	UBUS	1.1990e-003	0.00
tblFleetMix	UBUS	1.1990e-003	0.00
tblFleetMix	UBUS	1.1990e-003	0.00
tblFleetMix	UBUS	1.1990e-003	1.6950e-003
tblFleetMix	UBUS	1.1990e-003	1.6950e-003
tblFleetMix	UBUS	1.1990e-003	1.6950e-003
tblFleetMix	UBUS	1.1990e-003	0.00
tblLandUse	LandUseSquareFeet	494,020.00	494,021.30
tblLandUse	LandUseSquareFeet	354,340.00	0.00
tblLandUse	LandUseSquareFeet	9,850.00	9,847.00
tblLandUse	LandUseSquareFeet	10,030.00	10,026.00
tblLandUse	LandUseSquareFeet	366,557.40	106,131.00
tblLandUse	LandUseSquareFeet	23,260.00	23,261.00
tblLandUse	LotAcreage	8.13	14.33
tblLandUse	LotAcreage	8.41	0.61
tblProjectCharacteristics	CO2IntensityFactor	641.35	135.0507365
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblSolidWaste	SolidWasteGenerationRate	69.90	38.14
tblSolidWaste	SolidWasteGenerationRate	113.46	8.99
tblSolidWaste	SolidWasteGenerationRate	119.36	9.15
tblSolidWaste	SolidWasteGenerationRate	102.38	68.26
tblSolidWaste	SolidWasteGenerationRate	12.58	13.14
tblVehicleEF	HHD	1.97	0.02
tblVehicleEF	HHD	4.9610e-003	1.8570e-003
tblVehicleEF	HHD	0.05	0.00

tblVehicleEF	HHD	1.87	7.63
tblVehicleEF	HHD	0.48	0.21
tblVehicleEF	HHD	0.51	1.0650e-003
tblVehicleEF	HHD	5,544.66	983.60
tblVehicleEF	HHD	1,441.47	997.36
tblVehicleEF	HHD	1.53	8.7080e-003
tblVehicleEF	HHD	15.45	6.11
tblVehicleEF	HHD	1.31	2.16
tblVehicleEF	HHD	20.67	2.23
tblVehicleEF	HHD	1.5970e-003	2.2090e-003
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	5.2930e-003	0.03
tblVehicleEF	HHD	1.9000e-005	0.00
tblVehicleEF	HHD	1.5280e-003	2.1130e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.9800e-003	8.9870e-003
tblVehicleEF	HHD	5.0640e-003	0.02
tblVehicleEF	HHD	1.7000e-005	0.00
tblVehicleEF	HHD	2.1000e-005	0.00
tblVehicleEF	HHD	6.4500e-004	1.5000e-005
tblVehicleEF	HHD	0.50	0.52
tblVehicleEF	HHD	1.1000e-005	0.00
tblVehicleEF	HHD	0.08	0.02
tblVehicleEF	HHD	4.8000e-005	7.3000e-005
tblVehicleEF	HHD	8.7480e-003	0.00
tblVehicleEF	HHD	0.05	9.2900e-003

tblVehicleEF	HHD	0.01	9.4160e-003
tblVehicleEF	HHD	2.4000e-005	0.00
tblVehicleEF	HHD	2.1000e-005	0.00
tblVehicleEF	HHD	6.4500e-004	1.5000e-005
tblVehicleEF	HHD	0.58	0.59
tblVehicleEF	HHD	1.1000e-005	0.00
tblVehicleEF	HHD	0.09	0.02
tblVehicleEF	HHD	4.8000e-005	7.3000e-005
tblVehicleEF	HHD	9.5780e-003	0.00
tblVehicleEF	HHD	1.85	0.03
tblVehicleEF	HHD	4.9650e-003	1.8570e-003
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tblVehicleEF	HHD	1.36	7.53
tblVehicleEF	HHD	0.49	0.21
tblVehicleEF	HHD	0.47	9.8900e-004
tblVehicleEF	HHD	5,874.08	970.73
tblVehicleEF	HHD	1,441.47	997.36
tblVehicleEF	HHD	1.53	8.5880e-003
tblVehicleEF	HHD	15.95	5.81
tblVehicleEF	HHD	1.25	2.06
tblVehicleEF	HHD	20.67	2.23
tblVehicleEF	HHD	1.3470e-003	1.9620e-003
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	5.2930e-003	0.03
tblVehicleEF	HHD	1.9000e-005	0.00
tblVehicleEF	HHD	1.2880e-003	1.8770e-003

tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.9800e-003	8.9870e-003
tblVehicleEF	HHD	5.0640e-003	0.02
tblVehicleEF	HHD	1.7000e-005	0.00
tblVehicleEF	HHD	4.8000e-005	1.0000e-006
tblVehicleEF	HHD	7.2600e-004	1.6000e-005
tblVehicleEF	HHD	0.48	0.55
tblVehicleEF	HHD	2.2000e-005	0.00
tblVehicleEF	HHD	0.08	0.02
tblVehicleEF	HHD	4.8000e-005	7.2000e-005
tblVehicleEF	HHD	8.2700e-003	0.00
tblVehicleEF	HHD	0.06	9.1690e-003
tblVehicleEF	HHD	0.01	9.4160e-003
tblVehicleEF	HHD	2.3000e-005	0.00
tblVehicleEF	HHD	4.8000e-005	1.0000e-006
tblVehicleEF	HHD	7.2600e-004	1.6000e-005
tblVehicleEF	HHD	0.54	0.62
tblVehicleEF	HHD	2.2000e-005	0.00
tblVehicleEF	HHD	0.09	0.02
tblVehicleEF	HHD	4.8000e-005	7.2000e-005
tblVehicleEF	HHD	9.0550e-003	0.00
tblVehicleEF	HHD	2.12	0.02
tblVehicleEF	HHD	4.9550e-003	9.6700e-004
tblVehicleEF	HHD	0.06	0.00
tblVehicleEF	HHD	2.57	7.76
tblVehicleEF	HHD	0.48	0.21
tblVehicleEF	HHD	0.56	1.1670e-003

tblVehicleEF	HHD	5,089.75	1,001.13
tblVehicleEF	HHD	1,441.47	996.71
tblVehicleEF	HHD	1.53	8.8700e-003
tblVehicleEF	HHD	14.76	6.53
tblVehicleEF	HHD	1.34	2.20
tblVehicleEF	HHD	20.67	2.23
tblVehicleEF	HHD	1.9440e-003	2.5470e-003
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	5.2930e-003	0.03
tblVehicleEF	HHD	1.9000e-005	0.00
tblVehicleEF	HHD	1.8600e-003	2.4370e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.9800e-003	8.9850e-003
tblVehicleEF	HHD	5.0640e-003	0.02
tblVehicleEF	HHD	1.7000e-005	0.00
tblVehicleEF	HHD	7.0000e-006	0.00
tblVehicleEF	HHD	6.3600e-004	1.5000e-005
tblVehicleEF	HHD	0.54	0.47
tblVehicleEF	HHD	4.0000e-006	0.00
tblVehicleEF	HHD	0.08	0.02
tblVehicleEF	HHD	5.4000e-005	8.1000e-005
tblVehicleEF	HHD	9.3440e-003	0.00
tblVehicleEF	HHD	0.05	9.4580e-003
tblVehicleEF	HHD	0.01	9.4160e-003
tblVehicleEF	HHD	2.4000e-005	0.00
tblVehicleEF	HHD	7.0000e-006	0.00

tblVehicleEF	HHD	6.3600e-004	1.5000e-005
tblVehicleEF	HHD	0.62	0.54
tblVehicleEF	HHD	4.0000e-006	0.00
tblVehicleEF	HHD	0.09	0.02
tblVehicleEF	HHD	5.4000e-005	8.1000e-005
tblVehicleEF	HHD	0.01	0.00
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tblVehicleEF	LDA	6.8500e-004	0.02
tblVehicleEF	LDA	0.25	0.37
tblVehicleEF	LDA	0.35	1.39
tblVehicleEF	LDA	161.18	187.13
tblVehicleEF	LDA	35.52	36.78
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.01	0.11
tblVehicleEF	LDA	6.2600e-004	5.3900e-004
tblVehicleEF	LDA	1.0040e-003	7.6000e-004
tblVehicleEF	LDA	5.7600e-004	4.9600e-004
tblVehicleEF	LDA	9.2300e-004	6.9900e-004
tblVehicleEF	LDA	0.01	0.02
tblVehicleEF	LDA	0.03	0.04
tblVehicleEF	LDA	0.01	0.02
tblVehicleEF	LDA	3.2740e-003	1.7760e-003
tblVehicleEF	LDA	0.02	0.15
tblVehicleEF	LDA	9.2370e-003	0.07
tblVehicleEF	LDA	1.6120e-003	1.8510e-003
tblVehicleEF	LDA	3.6000e-004	3.6400e-004
tblVehicleEF	LDA	0.01	0.02

tblVehicleEF	LDA	0.03	0.04
tblVehicleEF	LDA	0.01	0.02
tblVehicleEF	LDA	4.7600e-003	2.5950e-003
tblVehicleEF	LDA	0.02	0.15
tblVehicleEF	LDA	0.01	0.07
tblVehicleEF	LDA	1.5050e-003	7.2200e-004
tblVehicleEF	LDA	5.6400e-004	0.02
tblVehicleEF	LDA	0.32	0.46
tblVehicleEF	LDA	0.29	1.18
tblVehicleEF	LDA	177.37	205.49
tblVehicleEF	LDA	35.52	36.43
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.01	0.10
tblVehicleEF	LDA	6.2600e-004	5.3900e-004
tblVehicleEF	LDA	1.0040e-003	7.6000e-004
tblVehicleEF	LDA	5.7600e-004	4.9600e-004
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tblVehicleEF	LDA	0.03	0.05
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.02	0.04
tblVehicleEF	LDA	3.7750e-003	2.0420e-003
tblVehicleEF	LDA	0.02	0.15
tblVehicleEF	LDA	7.6080e-003	0.06
tblVehicleEF	LDA	1.7750e-003	2.0330e-003
tblVehicleEF	LDA	3.5900e-004	3.6000e-004
tblVehicleEF	LDA	0.03	0.05
tblVehicleEF	LDA	0.04	0.04

tblVehicleEF	LDA	0.02	0.04
tblVehicleEF	LDA	5.4900e-003	2.9880e-003
tblVehicleEF	LDA	0.02	0.15
tblVehicleEF	LDA	8.3290e-003	0.06
tblVehicleEF	LDA	1.2130e-003	5.6500e-004
tblVehicleEF	LDA	8.1800e-004	0.02
tblVehicleEF	LDA	0.23	0.34
tblVehicleEF	LDA	0.44	1.71
tblVehicleEF	LDA	154.57	179.65
tblVehicleEF	LDA	35.52	37.32
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.02	0.12
tblVehicleEF	LDA	6.2600e-004	5.3900e-004
tblVehicleEF	LDA	1.0040e-003	7.6000e-004
tblVehicleEF	LDA	5.7600e-004	4.9600e-004
tblVehicleEF	LDA	9.2300e-004	6.9900e-004
tblVehicleEF	LDA	3.8090e-003	6.2900e-003
tblVehicleEF	LDA	0.03	0.04
tblVehicleEF	LDA	3.3320e-003	5.6320e-003
tblVehicleEF	LDA	3.0510e-003	1.6570e-003
tblVehicleEF	LDA	0.03	0.18
tblVehicleEF	LDA	0.01	0.08
tblVehicleEF	LDA	1.5460e-003	1.7770e-003
tblVehicleEF	LDA	3.6200e-004	3.6900e-004
tblVehicleEF	LDA	3.8090e-003	6.3980e-003
tblVehicleEF	LDA	0.03	0.04
tblVehicleEF	LDA	3.3320e-003	5.7300e-003

tblVehicleEF	LDA	4.4340e-003	2.4200e-003
tblVehicleEF	LDA	0.03	0.18
tblVehicleEF	LDA	0.01	0.09
tblVehicleEF	LDT1	1.9680e-003	7.9500e-004
tblVehicleEF	LDT1	1.3470e-003	0.02
tblVehicleEF	LDT1	0.35	0.40
tblVehicleEF	LDT1	0.53	1.51
tblVehicleEF	LDT1	206.96	223.96
tblVehicleEF	LDT1	46.36	44.97
tblVehicleEF	LDT1	0.03	0.02
tblVehicleEF	LDT1	0.03	0.13
tblVehicleEF	LDT1	8.2000e-004	6.3200e-004
tblVehicleEF	LDT1	1.3150e-003	9.0200e-004
tblVehicleEF	LDT1	7.5400e-004	5.8100e-004
tblVehicleEF	LDT1	1.2090e-003	8.2900e-004
tblVehicleEF	LDT1	0.03	0.04
tblVehicleEF	LDT1	0.06	0.06
tblVehicleEF	LDT1	0.02	0.03
tblVehicleEF	LDT1	4.8800e-003	2.4430e-003
tblVehicleEF	LDT1	0.05	0.22
tblVehicleEF	LDT1	0.02	0.08
tblVehicleEF	LDT1	2.0710e-003	2.2160e-003
tblVehicleEF	LDT1	4.7200e-004	4.4500e-004
tblVehicleEF	LDT1	0.03	0.04
tblVehicleEF	LDT1	0.06	0.06
tblVehicleEF	LDT1	0.02	0.03
tblVehicleEF	LDT1	7.1180e-003	3.5960e-003

tblVehicleEF	LDT1	0.05	0.23
tblVehicleEF	LDT1	0.02	0.09
tblVehicleEF	LDT1	2.2680e-003	9.2800e-004
tblVehicleEF	LDT1	1.1100e-003	0.02
tblVehicleEF	LDT1	0.44	0.51
tblVehicleEF	LDT1	0.44	1.28
tblVehicleEF	LDT1	227.28	242.71
tblVehicleEF	LDT1	46.36	44.57
tblVehicleEF	LDT1	0.03	0.02
tblVehicleEF	LDT1	0.03	0.12
tblVehicleEF	LDT1	8.2000e-004	6.3200e-004
tblVehicleEF	LDT1	1.3150e-003	9.0200e-004
tblVehicleEF	LDT1	7.5400e-004	5.8100e-004
tblVehicleEF	LDT1	1.2090e-003	8.2900e-004
tblVehicleEF	LDT1	0.07	0.09
tblVehicleEF	LDT1	0.07	0.06
tblVehicleEF	LDT1	0.05	0.07
tblVehicleEF	LDT1	5.6210e-003	2.8120e-003
tblVehicleEF	LDT1	0.05	0.22
tblVehicleEF	LDT1	0.01	0.07
tblVehicleEF	LDT1	2.2760e-003	2.4020e-003
tblVehicleEF	LDT1	4.7000e-004	4.4100e-004
tblVehicleEF	LDT1	0.07	0.09
tblVehicleEF	LDT1	0.07	0.07
tblVehicleEF	LDT1	0.05	0.07
tblVehicleEF	LDT1	8.1980e-003	4.1400e-003
tblVehicleEF	LDT1	0.05	0.22

tblVehicleEF	LDT1	0.02	0.07
tblVehicleEF	LDT1	1.8340e-003	7.2900e-004
tblVehicleEF	LDT1	1.6100e-003	0.02
tblVehicleEF	LDT1	0.32	0.37
tblVehicleEF	LDT1	0.66	1.86
tblVehicleEF	LDT1	198.67	216.32
tblVehicleEF	LDT1	46.36	45.55
tblVehicleEF	LDT1	0.03	0.02
tblVehicleEF	LDT1	0.03	0.14
tblVehicleEF	LDT1	8.2000e-004	6.3200e-004
tblVehicleEF	LDT1	1.3150e-003	9.0200e-004
tblVehicleEF	LDT1	7.5400e-004	5.8100e-004
tblVehicleEF	LDT1	1.2090e-003	8.2900e-004
tblVehicleEF	LDT1	8.7450e-003	0.01
tblVehicleEF	LDT1	0.06	0.06
tblVehicleEF	LDT1	7.9200e-003	0.01
tblVehicleEF	LDT1	4.5480e-003	2.2770e-003
tblVehicleEF	LDT1	0.06	0.27
tblVehicleEF	LDT1	0.02	0.10
tblVehicleEF	LDT1	1.9880e-003	2.1410e-003
tblVehicleEF	LDT1	4.7400e-004	4.5100e-004
tblVehicleEF	LDT1	8.7450e-003	0.01
tblVehicleEF	LDT1	0.06	0.06
tblVehicleEF	LDT1	7.9200e-003	0.01
tblVehicleEF	LDT1	6.6340e-003	3.3520e-003
tblVehicleEF	LDT1	0.06	0.27
tblVehicleEF	LDT1	0.02	0.11

tblVehicleEF	LDT2	2.1460e-003	9.9000e-004
tblVehicleEF	LDT2	1.4260e-003	0.03
tblVehicleEF	LDT2	0.41	0.46
tblVehicleEF	LDT2	0.58	1.89
tblVehicleEF	LDT2	237.91	223.43
tblVehicleEF	LDT2	52.93	45.05
tblVehicleEF	LDT2	0.03	0.02
tblVehicleEF	LDT2	0.03	0.12
tblVehicleEF	LDT2	7.8500e-004	6.3500e-004
tblVehicleEF	LDT2	1.2300e-003	8.3200e-004
tblVehicleEF	LDT2	7.2200e-004	5.8500e-004
tblVehicleEF	LDT2	1.1310e-003	7.6500e-004
tblVehicleEF	LDT2	0.03	0.05
tblVehicleEF	LDT2	0.05	0.06
tblVehicleEF	LDT2	0.02	0.04
tblVehicleEF	LDT2	5.3420e-003	3.2390e-003
tblVehicleEF	LDT2	0.04	0.22
tblVehicleEF	LDT2	0.02	0.10
tblVehicleEF	LDT2	2.3810e-003	2.2100e-003
tblVehicleEF	LDT2	5.3800e-004	4.4600e-004
tblVehicleEF	LDT2	0.03	0.05
tblVehicleEF	LDT2	0.05	0.06
tblVehicleEF	LDT2	0.02	0.04
tblVehicleEF	LDT2	7.7830e-003	4.7160e-003
tblVehicleEF	LDT2	0.04	0.22
tblVehicleEF	LDT2	0.02	0.11
tblVehicleEF	LDT2	2.4720e-003	1.1550e-003

tblVehicleEF	LDT2	1.2350e-003	0.02
tblVehicleEF	LDT2	0.51	0.57
tblVehicleEF	LDT2	0.51	1.59
tblVehicleEF	LDT2	261.22	240.39
tblVehicleEF	LDT2	52.93	44.53
tblVehicleEF	LDT2	0.03	0.02
tblVehicleEF	LDT2	0.03	0.12
tblVehicleEF	LDT2	7.8500e-004	6.3500e-004
tblVehicleEF	LDT2	1.2300e-003	8.3200e-004
tblVehicleEF	LDT2	7.2200e-004	5.8500e-004
tblVehicleEF	LDT2	1.1310e-003	7.6500e-004
tblVehicleEF	LDT2	0.07	0.11
tblVehicleEF	LDT2	0.06	0.07
tblVehicleEF	LDT2	0.05	0.09
tblVehicleEF	LDT2	6.1500e-003	3.7060e-003
tblVehicleEF	LDT2	0.04	0.21
tblVehicleEF	LDT2	0.02	0.09
tblVehicleEF	LDT2	2.6150e-003	2.3780e-003
tblVehicleEF	LDT2	5.3700e-004	4.4100e-004
tblVehicleEF	LDT2	0.07	0.11
tblVehicleEF	LDT2	0.06	0.07
tblVehicleEF	LDT2	0.05	0.09
tblVehicleEF	LDT2	8.9620e-003	5.4040e-003
tblVehicleEF	LDT2	0.04	0.21
tblVehicleEF	LDT2	0.02	0.09
tblVehicleEF	LDT2	2.0000e-003	9.0700e-004
tblVehicleEF	LDT2	1.6380e-003	0.03

tblVehicleEF	LDT2	0.38	0.42
tblVehicleEF	LDT2	0.67	2.34
tblVehicleEF	LDT2	228.40	216.53
tblVehicleEF	LDT2	52.93	45.80
tblVehicleEF	LDT2	0.03	0.02
tblVehicleEF	LDT2	0.03	0.14
tblVehicleEF	LDT2	7.8500e-004	6.3500e-004
tblVehicleEF	LDT2	1.2300e-003	8.3200e-004
tblVehicleEF	LDT2	7.2200e-004	5.8500e-004
tblVehicleEF	LDT2	1.1310e-003	7.6500e-004
tblVehicleEF	LDT2	8.6770e-003	0.01
tblVehicleEF	LDT2	0.05	0.06
tblVehicleEF	LDT2	7.8710e-003	0.01
tblVehicleEF	LDT2	4.9800e-003	3.0300e-003
tblVehicleEF	LDT2	0.05	0.26
tblVehicleEF	LDT2	0.02	0.12
tblVehicleEF	LDT2	2.2860e-003	2.1420e-003
tblVehicleEF	LDT2	5.4000e-004	4.5300e-004
tblVehicleEF	LDT2	8.6770e-003	0.01
tblVehicleEF	LDT2	0.05	0.06
tblVehicleEF	LDT2	7.8710e-003	0.01
tblVehicleEF	LDT2	7.2550e-003	4.4080e-003
tblVehicleEF	LDT2	0.05	0.26
tblVehicleEF	LDT2	0.02	0.13
tblVehicleEF	LHD1	2.9730e-003	3.3260e-003
tblVehicleEF	LHD1	5.1770e-003	4.0560e-003
tblVehicleEF	LHD1	5.0910e-003	5.8770e-003

tblVehicleEF	LHD1	0.13	0.17
tblVehicleEF	LHD1	0.47	0.39
tblVehicleEF	LHD1	1.04	0.72
tblVehicleEF	LHD1	8.97	7.86
tblVehicleEF	LHD1	620.13	639.44
tblVehicleEF	LHD1	22.79	8.37
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.41	0.19
tblVehicleEF	LHD1	0.40	0.16
tblVehicleEF	LHD1	7.4600e-004	1.0350e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.7050e-003	6.5040e-003
tblVehicleEF	LHD1	4.6500e-004	1.7200e-004
tblVehicleEF	LHD1	7.1400e-004	9.9000e-004
tblVehicleEF	LHD1	2.6340e-003	2.5060e-003
tblVehicleEF	LHD1	8.3000e-003	6.1820e-003
tblVehicleEF	LHD1	4.2700e-004	1.5800e-004
tblVehicleEF	LHD1	1.4650e-003	1.4210e-003
tblVehicleEF	LHD1	0.04	0.04
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	7.8800e-004	7.5400e-004
tblVehicleEF	LHD1	0.09	0.07
tblVehicleEF	LHD1	0.09	0.18
tblVehicleEF	LHD1	0.07	0.03
tblVehicleEF	LHD1	8.9000e-005	7.6000e-005
tblVehicleEF	LHD1	6.0470e-003	6.2260e-003
tblVehicleEF	LHD1	2.4600e-004	8.3000e-005

tblVehicleEF	LHD1	1.4650e-003	1.4210e-003
tblVehicleEF	LHD1	0.04	0.04
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	7.8800e-004	7.5400e-004
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.09	0.18
tblVehicleEF	LHD1	0.08	0.03
tblVehicleEF	LHD1	2.9730e-003	3.3350e-003
tblVehicleEF	LHD1	5.2110e-003	4.0880e-003
tblVehicleEF	LHD1	4.8090e-003	5.5720e-003
tblVehicleEF	LHD1	0.13	0.17
tblVehicleEF	LHD1	0.48	0.39
tblVehicleEF	LHD1	0.97	0.68
tblVehicleEF	LHD1	8.97	7.86
tblVehicleEF	LHD1	620.13	639.44
tblVehicleEF	LHD1	22.79	8.29
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.39	0.18
tblVehicleEF	LHD1	0.37	0.15
tblVehicleEF	LHD1	7.4600e-004	1.0350e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.7050e-003	6.5040e-003
tblVehicleEF	LHD1	4.6500e-004	1.7200e-004
tblVehicleEF	LHD1	7.1400e-004	9.9000e-004
tblVehicleEF	LHD1	2.6340e-003	2.5060e-003
tblVehicleEF	LHD1	8.3000e-003	6.1820e-003
tblVehicleEF	LHD1	4.2700e-004	1.5800e-004

tblVehicleEF	LHD1	3.3490e-003	3.2650e-003
tblVehicleEF	LHD1	0.05	0.04
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	1.5190e-003	1.4710e-003
tblVehicleEF	LHD1	0.09	0.07
tblVehicleEF	LHD1	0.09	0.18
tblVehicleEF	LHD1	0.06	0.02
tblVehicleEF	LHD1	8.9000e-005	7.6000e-005
tblVehicleEF	LHD1	6.0470e-003	6.2260e-003
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tblVehicleEF	LHD1	3.3490e-003	3.2650e-003
tblVehicleEF	LHD1	0.05	0.04
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.5190e-003	1.4710e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.09	0.18
tblVehicleEF	LHD1	0.07	0.03
tblVehicleEF	LHD1	2.9730e-003	3.3150e-003
tblVehicleEF	LHD1	5.1390e-003	4.0200e-003
tblVehicleEF	LHD1	5.4300e-003	6.2410e-003
tblVehicleEF	LHD1	0.13	0.17
tblVehicleEF	LHD1	0.47	0.39
tblVehicleEF	LHD1	1.13	0.79
tblVehicleEF	LHD1	8.97	7.86
tblVehicleEF	LHD1	620.13	639.43
tblVehicleEF	LHD1	22.79	8.48
tblVehicleEF	LHD1	0.06	0.05

tblVehicleEF	LHD1	0.42	0.20
tblVehicleEF	LHD1	0.43	0.17
tblVehicleEF	LHD1	7.4600e-004	1.0350e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.7050e-003	6.5040e-003
tblVehicleEF	LHD1	4.6500e-004	1.7200e-004
tblVehicleEF	LHD1	7.1400e-004	9.9000e-004
tblVehicleEF	LHD1	2.6340e-003	2.5060e-003
tblVehicleEF	LHD1	8.3000e-003	6.1820e-003
tblVehicleEF	LHD1	4.2700e-004	1.5800e-004
tblVehicleEF	LHD1	4.9900e-004	4.7500e-004
tblVehicleEF	LHD1	0.04	0.04
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	3.2200e-004	3.0400e-004
tblVehicleEF	LHD1	0.09	0.07
tblVehicleEF	LHD1	0.10	0.19
tblVehicleEF	LHD1	0.07	0.03
tblVehicleEF	LHD1	8.9000e-005	7.6000e-005
tblVehicleEF	LHD1	6.0470e-003	6.2260e-003
tblVehicleEF	LHD1	2.4800e-004	8.4000e-005
tblVehicleEF	LHD1	4.9900e-004	4.7500e-004
tblVehicleEF	LHD1	0.04	0.04
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	3.2200e-004	3.0400e-004
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.10	0.19
tblVehicleEF	LHD1	0.08	0.03

tblVehicleEF	LHD2	2.1560e-003	2.0470e-003
tblVehicleEF	LHD2	4.7160e-003	4.9570e-003
tblVehicleEF	LHD2	2.0450e-003	3.0310e-003
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.43	0.49
tblVehicleEF	LHD2	0.81	0.40
tblVehicleEF	LHD2	13.35	12.50
tblVehicleEF	LHD2	661.52	628.25
tblVehicleEF	LHD2	20.92	5.35
tblVehicleEF	LHD2	0.05	0.07
tblVehicleEF	LHD2	0.09	0.27
tblVehicleEF	LHD2	0.19	0.09
tblVehicleEF	LHD2	8.7400e-004	1.5380e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	7.2360e-003	0.01
tblVehicleEF	LHD2	3.7900e-004	9.3000e-005
tblVehicleEF	LHD2	8.3600e-004	1.4710e-003
tblVehicleEF	LHD2	2.7120e-003	2.7290e-003
tblVehicleEF	LHD2	6.8990e-003	0.01
tblVehicleEF	LHD2	3.4900e-004	8.5000e-005
tblVehicleEF	LHD2	6.4300e-004	7.3800e-004
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.4200e-004	3.9700e-004
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.03	0.09
tblVehicleEF	LHD2	0.03	0.01

tblVehicleEF	LHD2	1.3000e-004	1.1900e-004
tblVehicleEF	LHD2	6.4260e-003	6.0530e-003
tblVehicleEF	LHD2	2.2300e-004	5.3000e-005
tblVehicleEF	LHD2	6.4300e-004	7.3800e-004
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	3.4200e-004	3.9700e-004
tblVehicleEF	LHD2	0.10	0.11
tblVehicleEF	LHD2	0.03	0.09
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	2.1560e-003	2.0520e-003
tblVehicleEF	LHD2	4.7370e-003	4.9740e-003
tblVehicleEF	LHD2	2.0250e-003	2.8730e-003
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.43	0.49
tblVehicleEF	LHD2	0.76	0.38
tblVehicleEF	LHD2	13.35	12.50
tblVehicleEF	LHD2	661.52	628.25
tblVehicleEF	LHD2	20.92	5.31
tblVehicleEF	LHD2	0.05	0.07
tblVehicleEF	LHD2	0.09	0.26
tblVehicleEF	LHD2	0.19	0.08
tblVehicleEF	LHD2	8.7400e-004	1.5380e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	7.2360e-003	0.01
tblVehicleEF	LHD2	3.7900e-004	9.3000e-005
tblVehicleEF	LHD2	8.3600e-004	1.4710e-003

tblVehicleEF	LHD2	2.7120e-003	2.7290e-003
tblVehicleEF	LHD2	6.8990e-003	0.01
tblVehicleEF	LHD2	3.4900e-004	8.5000e-005
tblVehicleEF	LHD2	1.4820e-003	1.6910e-003
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	6.7500e-004	7.7200e-004
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.03	0.09
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	1.3000e-004	1.1900e-004
tblVehicleEF	LHD2	6.4260e-003	6.0530e-003
tblVehicleEF	LHD2	2.2200e-004	5.3000e-005
tblVehicleEF	LHD2	1.4820e-003	1.6910e-003
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	6.7500e-004	7.7200e-004
tblVehicleEF	LHD2	0.10	0.11
tblVehicleEF	LHD2	0.03	0.09
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	2.1560e-003	2.0410e-003
tblVehicleEF	LHD2	4.6930e-003	4.9370e-003
tblVehicleEF	LHD2	2.0690e-003	3.2190e-003
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.43	0.49
tblVehicleEF	LHD2	0.89	0.44
tblVehicleEF	LHD2	13.35	12.50

tblVehicleEF	LHD2	661.52	628.25
tblVehicleEF	LHD2	20.92	5.41
tblVehicleEF	LHD2	0.05	0.07
tblVehicleEF	LHD2	0.09	0.27
tblVehicleEF	LHD2	0.19	0.10
tblVehicleEF	LHD2	8.7400e-004	1.5380e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	7.2360e-003	0.01
tblVehicleEF	LHD2	3.7900e-004	9.3000e-005
tblVehicleEF	LHD2	8.3600e-004	1.4710e-003
tblVehicleEF	LHD2	2.7120e-003	2.7290e-003
tblVehicleEF	LHD2	6.8990e-003	0.01
tblVehicleEF	LHD2	3.4900e-004	8.5000e-005
tblVehicleEF	LHD2	2.1100e-004	2.4700e-004
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	1.3600e-004	1.6100e-004
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.03	0.10
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	1.3000e-004	1.1900e-004
tblVehicleEF	LHD2	6.4260e-003	6.0530e-003
tblVehicleEF	LHD2	2.2400e-004	5.4000e-005
tblVehicleEF	LHD2	2.1100e-004	2.4700e-004
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	1.3600e-004	1.6100e-004

tblVehicleEF	LHD2	0.10	0.11
tblVehicleEF	LHD2	0.03	0.10
tblVehicleEF	LHD2	0.03	0.02
tblVehicleEF	MCY	0.45	0.32
tblVehicleEF	MCY	0.15	0.24
tblVehicleEF	MCY	17.12	17.10
tblVehicleEF	MCY	10.32	9.18
tblVehicleEF	MCY	169.79	211.77
tblVehicleEF	MCY	42.14	58.18
tblVehicleEF	MCY	1.13	1.13
tblVehicleEF	MCY	0.31	0.27
tblVehicleEF	MCY	3.2220e-003	2.8610e-003
tblVehicleEF	MCY	3.0080e-003	2.6700e-003
tblVehicleEF	MCY	1.58	1.57
tblVehicleEF	MCY	0.83	0.83
tblVehicleEF	MCY	0.80	0.80
tblVehicleEF	MCY	2.10	2.10
tblVehicleEF	MCY	0.35	1.30
tblVehicleEF	MCY	2.05	1.82
tblVehicleEF	MCY	2.0410e-003	2.0960e-003
tblVehicleEF	MCY	6.5000e-004	5.7600e-004
tblVehicleEF	MCY	1.58	1.57
tblVehicleEF	MCY	0.83	0.83
tblVehicleEF	MCY	0.80	0.80
tblVehicleEF	MCY	2.63	2.63
tblVehicleEF	MCY	0.35	1.30
tblVehicleEF	MCY	2.23	1.98

tblVehicleEF	MCY	0.45	0.31
tblVehicleEF	MCY	0.13	0.21
tblVehicleEF	MCY	17.45	17.42
tblVehicleEF	MCY	9.10	8.06
tblVehicleEF	MCY	169.79	212.18
tblVehicleEF	MCY	42.14	55.55
tblVehicleEF	MCY	0.99	0.99
tblVehicleEF	MCY	0.29	0.25
tblVehicleEF	MCY	3.2220e-003	2.8610e-003
tblVehicleEF	MCY	3.0080e-003	2.6700e-003
tblVehicleEF	MCY	3.96	3.94
tblVehicleEF	MCY	1.36	1.36
tblVehicleEF	MCY	2.05	2.05
tblVehicleEF	MCY	2.07	2.07
tblVehicleEF	MCY	0.34	1.27
tblVehicleEF	MCY	1.77	1.56
tblVehicleEF	MCY	2.0450e-003	2.1000e-003
tblVehicleEF	MCY	6.2200e-004	5.5000e-004
tblVehicleEF	MCY	3.96	3.94
tblVehicleEF	MCY	1.36	1.36
tblVehicleEF	MCY	2.05	2.05
tblVehicleEF	MCY	2.60	2.59
tblVehicleEF	MCY	0.34	1.27
tblVehicleEF	MCY	1.92	1.70
tblVehicleEF	MCY	0.47	0.33
tblVehicleEF	MCY	0.18	0.29
tblVehicleEF	MCY	18.29	18.26

tblVehicleEF	MCY	12.31	11.00
tblVehicleEF	MCY	169.79	213.90
tblVehicleEF	MCY	42.14	62.27
tblVehicleEF	MCY	1.23	1.23
tblVehicleEF	MCY	0.34	0.29
tblVehicleEF	MCY	3.2220e-003	2.8610e-003
tblVehicleEF	MCY	3.0080e-003	2.6700e-003
tblVehicleEF	MCY	0.39	0.39
tblVehicleEF	MCY	0.78	0.77
tblVehicleEF	MCY	0.18	0.18
tblVehicleEF	MCY	2.17	2.17
tblVehicleEF	MCY	0.43	1.57
tblVehicleEF	MCY	2.45	2.18
tblVehicleEF	MCY	2.0620e-003	2.1170e-003
tblVehicleEF	MCY	6.9400e-004	6.1600e-004
tblVehicleEF	MCY	0.39	0.39
tblVehicleEF	MCY	0.78	0.77
tblVehicleEF	MCY	0.18	0.18
tblVehicleEF	MCY	2.73	2.73
tblVehicleEF	MCY	0.43	1.57
tblVehicleEF	MCY	2.67	2.37
tblVehicleEF	MDV	2.6910e-003	1.0010e-003
tblVehicleEF	MDV	3.5610e-003	0.03
tblVehicleEF	MDV	0.47	0.46
tblVehicleEF	MDV	0.94	1.96
tblVehicleEF	MDV	312.80	270.52
tblVehicleEF	MDV	70.59	54.80

tblVehicleEF	MDV	0.04	0.02
tblVehicleEF	MDV	0.07	0.14
tblVehicleEF	MDV	8.0700e-004	6.1900e-004
tblVehicleEF	MDV	1.3260e-003	8.7100e-004
tblVehicleEF	MDV	7.4300e-004	5.7000e-004
tblVehicleEF	MDV	1.2200e-003	8.0100e-004
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.11	0.09
tblVehicleEF	MDV	0.06	0.07
tblVehicleEF	MDV	6.7940e-003	3.3710e-003
tblVehicleEF	MDV	0.06	0.27
tblVehicleEF	MDV	0.05	0.12
tblVehicleEF	MDV	3.1260e-003	2.6730e-003
tblVehicleEF	MDV	7.2100e-004	5.4200e-004
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.11	0.09
tblVehicleEF	MDV	0.06	0.07
tblVehicleEF	MDV	9.8650e-003	4.8980e-003
tblVehicleEF	MDV	0.06	0.27
tblVehicleEF	MDV	0.05	0.13
tblVehicleEF	MDV	3.0980e-003	1.1690e-003
tblVehicleEF	MDV	2.9890e-003	0.02
tblVehicleEF	MDV	0.58	0.57
tblVehicleEF	MDV	0.81	1.64
tblVehicleEF	MDV	342.71	287.23
tblVehicleEF	MDV	70.59	54.25
tblVehicleEF	MDV	0.04	0.02

tblVehicleEF	MDV	0.07	0.13
tblVehicleEF	MDV	8.0700e-004	6.1900e-004
tblVehicleEF	MDV	1.3260e-003	8.7100e-004
tblVehicleEF	MDV	7.4300e-004	5.7000e-004
tblVehicleEF	MDV	1.2200e-003	8.0100e-004
tblVehicleEF	MDV	0.16	0.19
tblVehicleEF	MDV	0.12	0.11
tblVehicleEF	MDV	0.12	0.15
tblVehicleEF	MDV	7.8010e-003	3.8530e-003
tblVehicleEF	MDV	0.06	0.26
tblVehicleEF	MDV	0.04	0.10
tblVehicleEF	MDV	3.4270e-003	2.8390e-003
tblVehicleEF	MDV	7.1900e-004	5.3700e-004
tblVehicleEF	MDV	0.16	0.19
tblVehicleEF	MDV	0.12	0.11
tblVehicleEF	MDV	0.12	0.15
tblVehicleEF	MDV	0.01	5.6070e-003
tblVehicleEF	MDV	0.06	0.27
tblVehicleEF	MDV	0.04	0.11
tblVehicleEF	MDV	2.5080e-003	9.1700e-004
tblVehicleEF	MDV	4.1950e-003	0.03
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tblVehicleEF	MDV	70.59	55.59
tblVehicleEF	MDV	0.04	0.02
tblVehicleEF	MDV	0.08	0.16

tblVehicleEF	MDV	8.0700e-004	6.1900e-004
tblVehicleEF	MDV	1.3260e-003	8.7100e-004
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tblVehicleEF	MDV	1.2200e-003	8.0100e-004
tblVehicleEF	MDV	0.02	0.03
tblVehicleEF	MDV	0.10	0.09
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	6.3430e-003	3.1560e-003
tblVehicleEF	MDV	0.08	0.32
tblVehicleEF	MDV	0.06	0.14
tblVehicleEF	MDV	3.0040e-003	2.6060e-003
tblVehicleEF	MDV	7.2400e-004	5.5000e-004
tblVehicleEF	MDV	0.02	0.03
tblVehicleEF	MDV	0.10	0.09
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	9.2060e-003	4.5800e-003
tblVehicleEF	MDV	0.08	0.32
tblVehicleEF	MDV	0.06	0.16
tblVehicleEF	MH	4.8350e-003	4.1210e-003
tblVehicleEF	MH	0.01	0.00
tblVehicleEF	MH	0.22	0.28
tblVehicleEF	MH	3.10	0.00
tblVehicleEF	MH	1,172.19	871.52
tblVehicleEF	MH	55.35	0.00
tblVehicleEF	MH	0.71	2.98
tblVehicleEF	MH	0.53	0.00
tblVehicleEF	MH	0.01	0.02

tblVehicleEF	MH	7.9380e-003	0.04
tblVehicleEF	MH	8.6500e-004	0.00
tblVehicleEF	MH	3.2240e-003	4.0000e-003
tblVehicleEF	MH	7.5550e-003	0.04
tblVehicleEF	MH	7.9500e-004	0.00
tblVehicleEF	MH	0.43	0.00
tblVehicleEF	MH	0.02	0.00
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tblVehicleEF	MH	0.03	0.09
tblVehicleEF	MH	3.0550e-003	0.00
tblVehicleEF	MH	0.19	0.00
tblVehicleEF	MH	0.01	8.2390e-003
tblVehicleEF	MH	6.0700e-004	0.00
tblVehicleEF	MH	0.43	0.00
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.16	0.00
tblVehicleEF	MH	0.04	0.10
tblVehicleEF	MH	3.0550e-003	0.00
tblVehicleEF	MH	0.20	0.00
tblVehicleEF	MH	4.9510e-003	4.1210e-003
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tblVehicleEF	MH	0.23	0.28
tblVehicleEF	MH	2.81	0.00
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tblVehicleEF	MH	0.67	2.84
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tblVehicleEF	MH	7.9380e-003	0.04
tblVehicleEF	MH	8.6500e-004	0.00
tblVehicleEF	MH	3.2240e-003	4.0000e-003
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tblVehicleEF	MH	7.9500e-004	0.00
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tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.30	0.00
tblVehicleEF	MH	0.03	0.09
tblVehicleEF	MH	3.0160e-003	0.00
tblVehicleEF	MH	0.18	0.00
tblVehicleEF	MH	0.01	8.2390e-003
tblVehicleEF	MH	6.0200e-004	0.00
tblVehicleEF	MH	1.00	0.00
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.30	0.00
tblVehicleEF	MH	0.04	0.10
tblVehicleEF	MH	3.0160e-003	0.00
tblVehicleEF	MH	0.19	0.00
tblVehicleEF	MH	4.6960e-003	4.1210e-003
tblVehicleEF	MH	0.01	0.00
tblVehicleEF	MH	0.21	0.28
tblVehicleEF	MH	3.46	0.00
tblVehicleEF	MH	1,172.19	871.52
tblVehicleEF	MH	55.35	0.00
tblVehicleEF	MH	0.73	3.03

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tblVehicleEF	MH	8.6500e-004	0.00
tblVehicleEF	MH	3.2240e-003	4.0000e-003
tblVehicleEF	MH	7.5550e-003	0.04
tblVehicleEF	MH	7.9500e-004	0.00
tblVehicleEF	MH	0.15	0.00
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.08	0.00
tblVehicleEF	MH	0.03	0.09
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tblVehicleEF	MH	0.20	0.00
tblVehicleEF	MH	0.01	8.2390e-003
tblVehicleEF	MH	6.1300e-004	0.00
tblVehicleEF	MH	0.15	0.00
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.08	0.00
tblVehicleEF	MH	0.03	0.10
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tblVehicleEF	MHD	0.23	0.16
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tblVehicleEF	MHD	10.38	1.58
tblVehicleEF	MHD	3.2000e-005	9.6000e-005
tblVehicleEF	MHD	2.9140e-003	8.0330e-003
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tblVehicleEF	MHD	8.2200e-004	5.6600e-004
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tblVehicleEF	MHD	0.19	0.05
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tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	0.03	0.03
tblVehicleEF	MHD	4.3900e-004	3.0300e-004
tblVehicleEF	MHD	0.05	0.02

tblVehicleEF	MHD	0.01	0.09
tblVehicleEF	MHD	0.20	0.06
tblVehicleEF	MHD	0.02	4.9960e-003
tblVehicleEF	MHD	2.5150e-003	1.0940e-003
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tblVehicleEF	MHD	10.36	1.57
tblVehicleEF	MHD	2.7000e-005	8.4000e-005
tblVehicleEF	MHD	2.9140e-003	8.0330e-003
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tblVehicleEF	MHD	2.6000e-005	8.0000e-005
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tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	8.6300e-004	5.9400e-004
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tblVehicleEF	MHD	0.18	0.05

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tblVehicleEF	MHD	0.01	9.5870e-003
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tblVehicleEF	MHD	0.03	0.03
tblVehicleEF	MHD	8.6300e-004	5.9400e-004
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tblVehicleEF	MHD	0.01	0.09
tblVehicleEF	MHD	0.19	0.05
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tblVehicleEF	MHD	2.9140e-003	8.0330e-003
tblVehicleEF	MHD	8.0400e-004	1.5200e-004
tblVehicleEF	MHD	3.8000e-005	1.0700e-004
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tblVehicleEF	MHD	2.7200e-004	1.8700e-004
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tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	1.7600e-004	1.2100e-004
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tblVehicleEF	MHD	0.01	0.10
tblVehicleEF	MHD	0.20	0.06
tblVehicleEF	MHD	1.2090e-003	6.2000e-004
tblVehicleEF	MHD	0.01	9.5870e-003
tblVehicleEF	MHD	6.1300e-004	1.0700e-004
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tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	0.04	0.03
tblVehicleEF	MHD	1.7600e-004	1.2100e-004
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tblVehicleEF	OBUS	4.0480e-003	3.0620e-003
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tblVehicleEF	OBUS	2.0000e-005	1.1700e-004
tblVehicleEF	OBUS	2.5790e-003	6.9130e-003
tblVehicleEF	OBUS	1.0250e-003	2.1400e-004
tblVehicleEF	OBUS	1.9000e-005	1.1200e-004
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tblVehicleEF	OBUS	1.9400e-003	2.5600e-003
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.03	0.05
tblVehicleEF	OBUS	7.1300e-004	9.5100e-004
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tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.2400e-004	1.6500e-004
tblVehicleEF	OBUS	1.9400e-003	2.5600e-003
tblVehicleEF	OBUS	0.02	0.03
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tblVehicleEF	OBUS	0.01	8.7010e-003

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tblVehicleEF	OBUS	0.03	0.05
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tblVehicleEF	OBUS	6.6000e-004	9.0300e-004
tblVehicleEF	OBUS	0.02	0.03

tblVehicleEF	OBUS	0.03	0.05
tblVehicleEF	OBUS	3.4400e-004	4.7100e-004
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.04	0.34
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tblVehicleEF	OBUS	6.6000e-004	9.0300e-004
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.05	0.07
tblVehicleEF	OBUS	3.4400e-004	4.7100e-004
tblVehicleEF	OBUS	0.04	0.02
tblVehicleEF	OBUS	0.04	0.34
tblVehicleEF	OBUS	0.31	0.12
tblVehicleEF	SBUS	0.84	0.05
tblVehicleEF	SBUS	3.3930e-003	1.5240e-003
tblVehicleEF	SBUS	0.05	4.5110e-003
tblVehicleEF	SBUS	5.97	2.59
tblVehicleEF	SBUS	0.27	0.15
tblVehicleEF	SBUS	4.30	0.59
tblVehicleEF	SBUS	1,120.62	278.79
tblVehicleEF	SBUS	1,048.88	830.93
tblVehicleEF	SBUS	40.31	3.36
tblVehicleEF	SBUS	2.64	1.41
tblVehicleEF	SBUS	0.98	1.26
tblVehicleEF	SBUS	14.09	1.86

tblVehicleEF	SBUS	2.0500e-004	4.4000e-004
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.7750e-003	8.2140e-003
tblVehicleEF	SBUS	8.7800e-004	6.2000e-005
tblVehicleEF	SBUS	1.9600e-004	4.2100e-004
tblVehicleEF	SBUS	2.6870e-003	2.7000e-003
tblVehicleEF	SBUS	2.6360e-003	7.8400e-003
tblVehicleEF	SBUS	8.0800e-004	5.7000e-005
tblVehicleEF	SBUS	3.8890e-003	9.3100e-004
tblVehicleEF	SBUS	0.02	5.4470e-003
tblVehicleEF	SBUS	0.73	0.25
tblVehicleEF	SBUS	1.4430e-003	3.4400e-004
tblVehicleEF	SBUS	0.04	0.02
tblVehicleEF	SBUS	0.01	0.04
tblVehicleEF	SBUS	0.24	0.02
tblVehicleEF	SBUS	0.01	2.6540e-003
tblVehicleEF	SBUS	0.01	7.9460e-003
tblVehicleEF	SBUS	4.7800e-004	3.3000e-005
tblVehicleEF	SBUS	3.8890e-003	9.3100e-004
tblVehicleEF	SBUS	0.02	5.4470e-003
tblVehicleEF	SBUS	1.05	0.35
tblVehicleEF	SBUS	1.4430e-003	3.4400e-004
tblVehicleEF	SBUS	0.05	0.02
tblVehicleEF	SBUS	0.01	0.04
tblVehicleEF	SBUS	0.26	0.03
tblVehicleEF	SBUS	0.84	0.05
tblVehicleEF	SBUS	3.4430e-003	1.5540e-003

tblVehicleEF	SBUS	0.04	3.6100e-003
tblVehicleEF	SBUS	5.92	2.58
tblVehicleEF	SBUS	0.28	0.15
tblVehicleEF	SBUS	2.86	0.39
tblVehicleEF	SBUS	1,175.39	276.88
tblVehicleEF	SBUS	1,048.88	830.93
tblVehicleEF	SBUS	40.31	3.03
tblVehicleEF	SBUS	2.72	1.36
tblVehicleEF	SBUS	0.93	1.20
tblVehicleEF	SBUS	14.07	1.86
tblVehicleEF	SBUS	1.7300e-004	3.8500e-004
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.7750e-003	8.2140e-003
tblVehicleEF	SBUS	8.7800e-004	6.2000e-005
tblVehicleEF	SBUS	1.6500e-004	3.6800e-004
tblVehicleEF	SBUS	2.6870e-003	2.7000e-003
tblVehicleEF	SBUS	2.6360e-003	7.8400e-003
tblVehicleEF	SBUS	8.0800e-004	5.7000e-005
tblVehicleEF	SBUS	8.9670e-003	2.1480e-003
tblVehicleEF	SBUS	0.02	5.7560e-003
tblVehicleEF	SBUS	0.73	0.25
tblVehicleEF	SBUS	2.7070e-003	6.4800e-004
tblVehicleEF	SBUS	0.04	0.02
tblVehicleEF	SBUS	9.7640e-003	0.03
tblVehicleEF	SBUS	0.19	0.02
tblVehicleEF	SBUS	0.01	2.6360e-003
tblVehicleEF	SBUS	0.01	7.9460e-003

tblVehicleEF	SBUS	4.5300e-004	3.0000e-005
tblVehicleEF	SBUS	8.9670e-003	2.1480e-003
tblVehicleEF	SBUS	0.02	5.7560e-003
tblVehicleEF	SBUS	1.05	0.35
tblVehicleEF	SBUS	2.7070e-003	6.4800e-004
tblVehicleEF	SBUS	0.05	0.02
tblVehicleEF	SBUS	9.7640e-003	0.03
tblVehicleEF	SBUS	0.21	0.02
tblVehicleEF	SBUS	0.84	0.05
tblVehicleEF	SBUS	3.3390e-003	1.4920e-003
tblVehicleEF	SBUS	0.06	5.4800e-003
tblVehicleEF	SBUS	6.04	2.61
tblVehicleEF	SBUS	0.27	0.15
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tblVehicleEF	SBUS	1,045.00	281.43
tblVehicleEF	SBUS	1,048.88	830.93
tblVehicleEF	SBUS	40.31	3.76
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tblVehicleEF	SBUS	14.12	1.87
tblVehicleEF	SBUS	2.4900e-004	5.1700e-004
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.7750e-003	8.2140e-003
tblVehicleEF	SBUS	8.7800e-004	6.2000e-005
tblVehicleEF	SBUS	2.3900e-004	4.9500e-004
tblVehicleEF	SBUS	2.6870e-003	2.7000e-003
tblVehicleEF	SBUS	2.6360e-003	7.8400e-003

tblVehicleEF	SBUS	8.0800e-004	5.7000e-005
tblVehicleEF	SBUS	1.3400e-003	3.1900e-004
tblVehicleEF	SBUS	0.02	5.3990e-003
tblVehicleEF	SBUS	0.73	0.24
tblVehicleEF	SBUS	7.0400e-004	1.6700e-004
tblVehicleEF	SBUS	0.04	0.02
tblVehicleEF	SBUS	0.01	0.05
tblVehicleEF	SBUS	0.29	0.03
tblVehicleEF	SBUS	0.01	2.6790e-003
tblVehicleEF	SBUS	0.01	7.9460e-003
tblVehicleEF	SBUS	5.0700e-004	3.7000e-005
tblVehicleEF	SBUS	1.3400e-003	3.1900e-004
tblVehicleEF	SBUS	0.02	5.3990e-003
tblVehicleEF	SBUS	1.06	0.35
tblVehicleEF	SBUS	7.0400e-004	1.6700e-004
tblVehicleEF	SBUS	0.05	0.02
tblVehicleEF	SBUS	0.01	0.05
tblVehicleEF	SBUS	0.31	0.03
tblVehicleEF	UBUS	0.66	7.4260e-003
tblVehicleEF	UBUS	0.06	0.01
tblVehicleEF	UBUS	3.47	0.05
tblVehicleEF	UBUS	8.10	0.89
tblVehicleEF	UBUS	1,745.74	361.33
tblVehicleEF	UBUS	150.22	8.59
tblVehicleEF	UBUS	0.86	0.11
tblVehicleEF	UBUS	11.55	0.10
tblVehicleEF	UBUS	0.48	0.04

tblVehicleEF	UBUS	0.01	3.8320e-003
tblVehicleEF	UBUS	7.2890e-003	1.1360e-003
tblVehicleEF	UBUS	1.6350e-003	1.2200e-004
tblVehicleEF	UBUS	0.20	0.02
tblVehicleEF	UBUS	3.0000e-003	9.5800e-004
tblVehicleEF	UBUS	6.9320e-003	1.0740e-003
tblVehicleEF	UBUS	1.5040e-003	1.1200e-004
tblVehicleEF	UBUS	5.8180e-003	1.0750e-003
tblVehicleEF	UBUS	0.06	6.5000e-003
tblVehicleEF	UBUS	2.8720e-003	3.8900e-004
tblVehicleEF	UBUS	0.04	2.8680e-003
tblVehicleEF	UBUS	0.02	0.03
tblVehicleEF	UBUS	0.78	0.05
tblVehicleEF	UBUS	0.01	3.4980e-003
tblVehicleEF	UBUS	1.6520e-003	8.5000e-005
tblVehicleEF	UBUS	5.8180e-003	1.0750e-003
tblVehicleEF	UBUS	0.06	6.5000e-003
tblVehicleEF	UBUS	2.8720e-003	3.8900e-004
tblVehicleEF	UBUS	0.71	0.01
tblVehicleEF	UBUS	0.02	0.03
tblVehicleEF	UBUS	0.85	0.05
tblVehicleEF	UBUS	0.66	7.4470e-003
tblVehicleEF	UBUS	0.05	0.01
tblVehicleEF	UBUS	3.48	0.05
tblVehicleEF	UBUS	6.59	0.73
tblVehicleEF	UBUS	1,745.74	361.34
tblVehicleEF	UBUS	150.22	8.31

tblVehicleEF	UBUS	0.80	0.10
tblVehicleEF	UBUS	11.47	0.09
tblVehicleEF	UBUS	0.48	0.04
tblVehicleEF	UBUS	0.01	3.8320e-003
tblVehicleEF	UBUS	7.2890e-003	1.1360e-003
tblVehicleEF	UBUS	1.6350e-003	1.2200e-004
tblVehicleEF	UBUS	0.20	0.02
tblVehicleEF	UBUS	3.0000e-003	9.5800e-004
tblVehicleEF	UBUS	6.9320e-003	1.0740e-003
tblVehicleEF	UBUS	1.5040e-003	1.1200e-004
tblVehicleEF	UBUS	0.01	2.5590e-003
tblVehicleEF	UBUS	0.07	8.2670e-003
tblVehicleEF	UBUS	5.5360e-003	8.2000e-004
tblVehicleEF	UBUS	0.04	2.9220e-003
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.69	0.04
tblVehicleEF	UBUS	0.01	3.4980e-003
tblVehicleEF	UBUS	1.6260e-003	8.2000e-005
tblVehicleEF	UBUS	0.01	2.5590e-003
tblVehicleEF	UBUS	0.07	8.2670e-003
tblVehicleEF	UBUS	5.5360e-003	8.2000e-004
tblVehicleEF	UBUS	0.71	0.01
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.76	0.05
tblVehicleEF	UBUS	0.66	7.4040e-003
tblVehicleEF	UBUS	0.07	0.01
tblVehicleEF	UBUS	3.47	0.05

tblVehicleEF	UBUS	10.04	1.10
tblVehicleEF	UBUS	1,745.74	361.33
tblVehicleEF	UBUS	150.22	8.94
tblVehicleEF	UBUS	0.88	0.11
tblVehicleEF	UBUS	11.65	0.10
tblVehicleEF	UBUS	0.48	0.04
tblVehicleEF	UBUS	0.01	3.8320e-003
tblVehicleEF	UBUS	7.2890e-003	1.1360e-003
tblVehicleEF	UBUS	1.6350e-003	1.2200e-004
tblVehicleEF	UBUS	0.20	0.02
tblVehicleEF	UBUS	3.0000e-003	9.5800e-004
tblVehicleEF	UBUS	6.9320e-003	1.0740e-003
tblVehicleEF	UBUS	1.5040e-003	1.1200e-004
tblVehicleEF	UBUS	2.0480e-003	3.3700e-004
tblVehicleEF	UBUS	0.06	6.3050e-003
tblVehicleEF	UBUS	1.3990e-003	1.5800e-004
tblVehicleEF	UBUS	0.04	2.8080e-003
tblVehicleEF	UBUS	0.02	0.04
tblVehicleEF	UBUS	0.89	0.05
tblVehicleEF	UBUS	0.01	3.4980e-003
tblVehicleEF	UBUS	1.6860e-003	8.9000e-005
tblVehicleEF	UBUS	2.0480e-003	3.3700e-004
tblVehicleEF	UBUS	0.06	6.3050e-003
tblVehicleEF	UBUS	1.3990e-003	1.5800e-004
tblVehicleEF	UBUS	0.71	0.01
tblVehicleEF	UBUS	0.02	0.04
tblVehicleEF	UBUS	0.97	0.06

tblVehicleTrips	CC_TTP	80.20	0.00
tblVehicleTrips	CC_TTP	78.80	0.00
tblVehicleTrips	CC_TTP	72.50	0.00
tblVehicleTrips	CC_TTP	62.00	0.00
tblVehicleTrips	CC_TTP	64.70	0.00
tblVehicleTrips	CNW_TL	6.60	9.89
tblVehicleTrips	CNW_TL	6.60	9.89
tblVehicleTrips	CNW_TL	6.60	9.89
tblVehicleTrips	CNW_TL	6.60	9.89
tblVehicleTrips	CNW_TL	6.60	9.89
tblVehicleTrips	CNW_TTP	19.00	100.00
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tblVehicleTrips	CNW_TTP	19.00	100.00
tblVehicleTrips	CNW_TTP	19.00	100.00
tblVehicleTrips	CNW_TTP	19.00	100.00
tblVehicleTrips	CW_TTP	0.80	0.00
tblVehicleTrips	CW_TTP	2.20	0.00
tblVehicleTrips	CW_TTP	8.50	0.00
tblVehicleTrips	CW_TTP	19.00	0.00
tblVehicleTrips	CW_TTP	16.30	0.00
tblVehicleTrips	DV_TP	21.00	0.00
tblVehicleTrips	DV_TP	21.00	0.00
tblVehicleTrips	DV_TP	20.00	0.00
tblVehicleTrips	DV_TP	38.00	0.00
tblVehicleTrips	DV_TP	35.00	0.00
tblVehicleTrips	PB_TP	65.00	0.00
tblVehicleTrips	PB_TP	50.00	0.00

tblVehicleTrips	PB_TP	43.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PR_TP	14.00	100.00
tblVehicleTrips	PR_TP	29.00	100.00
tblVehicleTrips	PR_TP	37.00	100.00
tblVehicleTrips	PR_TP	58.00	100.00
tblVehicleTrips	PR_TP	54.00	100.00
tblVehicleTrips	ST_TR	1,448.33	65.09
tblVehicleTrips	ST_TR	722.03	153.76
tblVehicleTrips	ST_TR	158.37	151.01
tblVehicleTrips	ST_TR	5.63	8.10
tblVehicleTrips	ST_TR	49.97	126.38
tblVehicleTrips	SU_TR	1,182.08	65.09
tblVehicleTrips	SU_TR	542.72	153.76
tblVehicleTrips	SU_TR	131.84	151.01
tblVehicleTrips	SU_TR	5.63	8.10
tblVehicleTrips	SU_TR	25.24	126.83
tblVehicleTrips	WD_TR	845.60	65.09
tblVehicleTrips	WD_TR	496.12	153.76
tblVehicleTrips	WD_TR	127.15	151.01
tblVehicleTrips	WD_TR	5.63	8.10
tblVehicleTrips	WD_TR	42.70	126.38
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00

tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	IndoorWaterUseRate	1,722,926.85	2,776,190.00
tblWater	IndoorWaterUseRate	2,989,807.07	1,150,129.60
tblWater	IndoorWaterUseRate	3,044,443.14	1,171,036.80
tblWater	IndoorWaterUseRate	4,743,585.99	4,777,850.00
tblWater	IndoorWaterUseRate	887,388.81	218,635.00
tblWater	OutdoorWaterUseRate	1,055,987.42	0.00
tblWater	OutdoorWaterUseRate	190,838.75	0.00
tblWater	OutdoorWaterUseRate	194,326.16	0.00
tblWater	OutdoorWaterUseRate	527,065.11	0.00
tblWater	OutdoorWaterUseRate	543,883.46	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7962	9.0000e-005	0.0100	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0196	0.0196	5.0000e-005	0.0000	0.0209
Energy	0.0390	0.3543	0.2976	2.1300e-003		0.0269	0.0269		0.0269	0.0269	0.0000	495.5636	495.5636	0.0310	0.0120	499.8998
Mobile	1.6980	1.1473	19.7877	0.0632	10.1334	0.0216	10.1550	2.6919	0.0199	2.7119	0.0000	5,796.3593	5,796.3593	0.1349	0.0000	5,799.7311
Waste						0.0000	0.0000		0.0000	0.0000	27.9478	0.0000	27.9478	1.6517	0.0000	69.2395
Water						0.0000	0.0000		0.0000	0.0000	3.5712	3.3458	6.9170	0.0130	7.9100e-003	9.6009
Total	**2.5331**	**1.5017**	**20.0953**	**0.0653**	**10.1334**	**0.0486**	**10.1820**	**2.6919**	**0.0469**	**2.7388**	**31.5190**	**6,295.2883**	**6,326.8073**	**1.8306**	**0.0199**	**6,378.4922**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7962	9.0000e-005	0.0100	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0196	0.0196	5.0000e-005	0.0000	0.0209
Energy	0.0343	0.3113	0.2615	1.8700e-003		0.0237	0.0237		0.0237	0.0237	0.0000	436.9366	436.9366	0.0275	0.0106	440.7746
Mobile	1.6980	1.1473	19.7877	0.0632	10.1334	0.0216	10.1550	2.6919	0.0199	2.7119	0.0000	5,796.3593	5,796.3593	0.1349	0.0000	5,799.7311
Waste						0.0000	0.0000		0.0000	0.0000	27.9478	0.0000	27.9478	1.6517	0.0000	69.2395
Water						0.0000	0.0000		0.0000	0.0000	2.8570	2.6766	5.5336	0.0104	6.3300e-003	7.6807
Total	**2.5284**	**1.4587**	**20.0592**	**0.0650**	**10.1334**	**0.0453**	**10.1787**	**2.6919**	**0.0436**	**2.7356**	**30.8048**	**6,235.9922**	**6,266.7969**	**1.8245**	**0.0169**	**6,317.4467**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.19**	**2.86**	**0.18**	**0.40**	**0.00**	**6.73**	**0.03**	**0.00**	**6.97**	**0.12**	**2.27**	**0.94**	**0.95**	**0.33**	**14.90**	**0.96**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.6980	1.1473	19.7877	0.0632	10.1334	0.0216	10.1550	2.6919	0.0199	2.7119	0.0000	5,796.3593	5,796.3593	0.1349	0.0000	5,799.7311
Unmitigated	1.6980	1.1473	19.7877	0.0632	10.1334	0.0216	10.1550	2.6919	0.0199	2.7119	0.0000	5,796.3593	5,796.3593	0.1349	0.0000	5,799.7311

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Convenience Market With Gas Pumps	1,513.99	1,513.99	1513.99	5,450,316	5,450,316
Fast Food Restaurant with Drive Thru	1,514.52	1,514.52	1514.52	5,452,198	5,452,198
High Turnover (Sit Down Restaurant)	1,514.66	1,514.66	1514.66	5,452,717	5,452,717
Motel	1,514.14	1,514.14	1514.14	5,450,840	5,450,840
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	1,514.06	1,514.06	1519.45	5,453,315	5,453,315
Total	7,571.37	7,571.37	7,576.76	27,259,385	27,259,385

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Convenience Market With Gas	14.70	6.60	9.89	0.00	0.00	100.00	100	0	0
Fast Food Restaurant with Drive	14.70	6.60	9.89	0.00	0.00	100.00	100	0	0
High Turnover (Sit Down	14.70	6.60	9.89	0.00	0.00	100.00	100	0	0
Motel	14.70	6.60	9.89	0.00	0.00	100.00	100	0	0
Other Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Parking Lot	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Regional Shopping Center	14.70	6.60	9.89	0.00	0.00	100.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Convenience Market With Gas Pumps	0.651878	0.031833	0.194509	0.105893	0.009846	0.000000	0.000000	0.000000	0.000000	0.000000	0.006042	0.000000	0.000000
Fast Food Restaurant with Drive Thru	0.651878	0.031833	0.194509	0.105893	0.009846	0.000000	0.000000	0.000000	0.000000	0.000000	0.006042	0.000000	0.000000
High Turnover (Sit Down Restaurant)	0.651878	0.031833	0.194509	0.105893	0.009846	0.000000	0.000000	0.000000	0.000000	0.000000	0.006042	0.000000	0.000000
Motel	0.651878	0.031833	0.194509	0.105893	0.009846	0.000000	0.000000	0.000000	0.000000	0.000000	0.006042	0.000000	0.000000
Other Asphalt Surfaces	0.503527	0.027411	0.149893	0.110100	0.017112	0.004226	0.011648	0.165560	0.001710	0.001695	0.005548	0.000922	0.000648
Other Non-Asphalt Surfaces	0.503527	0.027411	0.149893	0.110100	0.017112	0.004226	0.011648	0.165560	0.001710	0.001695	0.005548	0.000922	0.000648
Parking Lot	0.503527	0.027411	0.149893	0.110100	0.017112	0.004226	0.011648	0.165560	0.001710	0.001695	0.005548	0.000922	0.000648
Regional Shopping Center	0.651878	0.031833	0.194509	0.105893	0.009846	0.000000	0.000000	0.000000	0.000000	0.000000	0.006042	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	98.0194	98.0194	0.0211	4.3500e-003	99.8433
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	109.8527	109.8527	0.0236	4.8800e-003	111.8968
NaturalGas Mitigated	0.0343	0.3113	0.2615	1.8700e-003		0.0237	0.0237		0.0237	0.0237	0.0000	338.9172	338.9172	6.5000e-003	6.2100e-003	340.9312
NaturalGas Unmitigated	0.0390	0.3543	0.2976	2.1300e-003		0.0269	0.0269		0.0269	0.0269	0.0000	385.7109	385.7109	7.3900e-003	7.0700e-003	388.0030

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Convenience Market With Gas Pumps	248893	1.3400e-003	0.0122	0.0103	7.0000e-005		9.3000e-004	9.3000e-004		9.3000e-004	9.3000e-004	0.0000	13.2819	13.2819	2.5000e-004	2.4000e-004	13.3608
Fast Food Restaurant with Drive Thru	2.07201e+006	0.0112	0.1016	0.0853	6.1000e-004		7.7200e-003	7.7200e-003		7.7200e-003	7.7200e-003	0.0000	110.5701	110.5701	2.1200e-003	2.0300e-003	111.2272
High Turnover (Sit Down Restaurant)	2.10967e+006	0.0114	0.1034	0.0869	6.2000e-004		7.8600e-003	7.8600e-003		7.8600e-003	7.8600e-003	0.0000	112.5801	112.5801	2.1600e-003	2.0600e-003	113.2491
Motel	2.66919e+006	0.0144	0.1308	0.1099	7.9000e-004		9.9400e-003	9.9400e-003		9.9400e-003	9.9400e-003	0.0000	142.4384	142.4384	2.7300e-003	2.6100e-003	143.2848
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	128186	6.9000e-004	6.2800e-003	5.2800e-003	4.0000e-005		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	6.8405	6.8405	1.3000e-004	1.3000e-004	6.8811
Total		**0.0390**	**0.3543**	**0.2976**	**2.1300e-003**		**0.0269**	**0.0269**		**0.0269**	**0.0269**	**0.0000**	**385.7109**	**385.7109**	**7.3900e-003**	**7.0700e-003**	**388.0030**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Convenience Market With Gas Pumps	188740	1.0200e-003	9.2500e-003	7.7700e-003	6.0000e-005		7.0000e-004	7.0000e-004		7.0000e-004	7.0000e-004	0.0000	10.0719	10.0719	1.9000e-004	1.8000e-004	10.1317
Fast Food Restaurant with Drive Thru	1.96649e+006	0.0106	0.0964	0.0810	5.8000e-004		7.3300e-003	7.3300e-003		7.3300e-003	7.3300e-003	0.0000	104.9391	104.9391	2.0100e-003	1.9200e-003	105.5627
High Turnover (Sit Down Restaurant)	2.00223e+006	0.0108	0.0982	0.0824	5.9000e-004		7.4600e-003	7.4600e-003		7.4600e-003	7.4600e-003	0.0000	106.8467	106.8467	2.0500e-003	1.9600e-003	107.4817
Motel	2.09641e+006	0.0113	0.1028	0.0863	6.2000e-004		7.8100e-003	7.8100e-003		7.8100e-003	7.8100e-003	0.0000	111.8722	111.8722	2.1400e-003	2.0500e-003	112.5370
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	97205.7	5.2000e-004	4.7600e-003	4.0000e-003	3.0000e-005		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004	0.0000	5.1873	5.1873	1.0000e-004	1.0000e-004	5.2181
Total		**0.0342**	**0.3113**	**0.2615**	**1.8800e-003**		**0.0237**	**0.0237**		**0.0237**	**0.0237**	**0.0000**	**338.9172**	**338.9172**	**6.4900e-003**	**6.2100e-003**	**340.9312**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Convenience Market With Gas Pumps	189577	11.6131	2.4900e-003	5.2000e-004	11.8292
Fast Food Restaurant with Drive Thru	285268	17.4749	3.7500e-003	7.8000e-004	17.8001
High Turnover (Sit Down Restaurant)	290453	17.7926	3.8200e-003	7.9000e-004	18.1237
Motel	842680	51.6209	0.0111	2.2900e-003	52.5814
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	87664.5	5.3702	1.1500e-003	2.4000e-004	5.4701
Regional Shopping Center	97637	5.9811	1.2800e-003	2.7000e-004	6.0923
Total		**109.8527**	**0.0236**	**4.8900e-003**	**111.8968**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Convenience Market With Gas Pumps	174644	10.6983	2.3000e-003	4.8000e-004	10.8974
Fast Food Restaurant with Drive Thru	265918	16.2896	3.5000e-003	7.2000e-004	16.5927
High Turnover (Sit Down Restaurant)	270752	16.5857	3.5600e-003	7.4000e-004	16.8944
Motel	711184	43.5657	9.3600e-003	1.9400e-003	44.3764
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	87664.5	5.3702	1.1500e-003	2.4000e-004	5.4701
Regional Shopping Center	89945.8	5.5099	1.1800e-003	2.4000e-004	5.6124
Total		**98.0194**	**0.0211**	**4.3600e-003**	**99.8433**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.7962	9.0000e-005	0.0100	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0196	0.0196	5.0000e-005	0.0000	0.0209
Unmitigated	0.7962	9.0000e-005	0.0100	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0196	0.0196	5.0000e-005	0.0000	0.0209

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1174					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6779					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.2000e-004	9.0000e-005	0.0100	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0196	0.0196	5.0000e-005	0.0000	0.0209
Total	**0.7962**	**9.0000e-005**	**0.0100**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.0196**	**0.0196**	**5.0000e-005**	**0.0000**	**0.0209**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1174					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6779					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.2000e-004	9.0000e-005	0.0100	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0196	0.0196	5.0000e-005	0.0000	0.0209
Total	**0.7962**	**9.0000e-005**	**0.0100**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.0196**	**0.0196**	**5.0000e-005**	**0.0000**	**0.0209**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	5.5336	0.0104	6.3300e-003	7.6807
Unmitigated	6.9170	0.0130	7.9100e-003	9.6009

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Convenience Market With Gas Pumps	2.77619 / 0	1.9024	3.5800e-003	2.1800e-003	2.6406
Fast Food Restaurant with Drive Thru	1.15013 / 0	0.7882	1.4800e-003	9.0000e-004	1.0940
High Turnover (Sit Down Restaurant)	1.17104 / 0	0.8025	1.5100e-003	9.2000e-004	1.1139
Motel	4.77785 / 0	3.2741	6.1600e-003	3.7500e-003	4.5445
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0.218635 / 0	0.1498	2.8000e-004	1.7000e-004	0.2080
Total		**6.9170**	**0.0130**	**7.9200e-003**	**9.6009**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Convenience Market With Gas Pumps	2.22095 / 0	1.5220	2.8600e-003	1.7400e-003	2.1125
Fast Food Restaurant with Drive Thru	0.920104 / 0	0.6305	1.1900e-003	7.2000e-004	0.8752
High Turnover (Sit Down Restaurant)	0.936829 / 0	0.6420	1.2100e-003	7.3000e-004	0.8911
Motel	3.82228 / 0	2.6193	4.9300e-003	3.0000e-003	3.6356
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0.174908 / 0	0.1199	2.3000e-004	1.4000e-004	0.1664
Total		**5.5336**	**0.0104**	**6.3300e-003**	**7.6807**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	27.9478	1.6517	0.0000	69.2395
Unmitigated	27.9478	1.6517	0.0000	69.2395

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Convenience Market With Gas Pumps	38.14	7.7421	0.4575	0.0000	19.1807
Fast Food Restaurant with Drive Thru	8.99	1.8249	0.1079	0.0000	4.5211
High Turnover (Sit Down Restaurant)	9.15	1.8574	0.1098	0.0000	4.6016
Motel	68.26	13.8562	0.8189	0.0000	34.3281
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	13.14	2.6673	0.1576	0.0000	6.6081
Total		**27.9478**	**1.6517**	**0.0000**	**69.2395**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Convenience Market With Gas Pumps	38.14	7.7421	0.4575	0.0000	19.1807
Fast Food Restaurant with Drive Thru	8.99	1.8249	0.1079	0.0000	4.5211
High Turnover (Sit Down Restaurant)	9.15	1.8574	0.1098	0.0000	4.6016
Motel	68.26	13.8562	0.8189	0.0000	34.3281
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	13.14	2.6673	0.1576	0.0000	6.6081
Total		**27.9478**	**1.6517**	**0.0000**	**69.2395**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Phase 1 Operation Year 2040

Kings County, Mitigation Report

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.77	10.77	10.69	10.84	10.77
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	12.14	12.13	12.14	11.74	12.14	12.14	0.00	12.13	12.13	12.18	12.16	12.13
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	19.91	20.08	20.00
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value 3
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	0.11	0.33		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			
No	Land Use	Increase Transit Accessibility	0.25			

No	Land Use	Integrate Below Market Rate Housing	0.00			
	Land Use	Land Use SubTotal	0.00			
No	Neighborhood Enhancements	Improve Pedestrian Network				
No	Neighborhood Enhancements	Provide Traffic Calming Measures				
No	Neighborhood Enhancements	Implement NEV Network	0.00			
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00			
No	Parking Policy Pricing	Limit Parking Supply	0.00			
No	Parking Policy Pricing	Unbundle Parking Costs	0.00			
No	Parking Policy Pricing	On-street Market Pricing	0.00			
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00			
No	Transit Improvements	Provide BRT System	0.00			
No	Transit Improvements	Expand Transit Network	0.00			
No	Transit Improvements	Increase Transit Frequency	0.00			
	Transit Improvements	Transit Improvements Subtotal	0.00			
		Land Use and Site Enhancement Subtotal	0.00			
No	Commute	Implement Trip Reduction Program				
No	Commute	Transit Subsidy				
No	Commute	Implement Employee Parking "Cash Out"				
No	Commute	Workplace Parking Charge				
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00			
No	Commute	Market Commute Trip Reduction Option	0.00			
No	Commute	Employee Vanpool/Shuttle	0.00		2.00	
No	Commute	Provide Ride Sharing Program				
	Commute	Commute Subtotal	0.00			
No	School Trip	Implement School Bus Program	0.00			
		Total VMT Reduction	0.00			

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
No	Use Low VOC Paint (Residential Interior)	150.00
No	Use Low VOC Paint (Residential Exterior)	150.00
No	Use Low VOC Paint (Non-residential Interior)	150.00
No	Use Low VOC Paint (Non-residential Exterior)	150.00
No	Use Low VOC Paint (Parking)	150.00
No	% Electric Lawnmower	
No	% Electric Leafblower	
No	% Electric Chainsaw	

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
Yes	Exceed Title 24	30.00	
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy	0.00	0.00
No	Use Reclaimed Water	0.00	0.00
No	Use Grey Water	0.00	
Yes	Install low-flow bathroom faucet	32.00	
Yes	Install low-flow Kitchen faucet	18.00	
Yes	Install low-flow Toilet	20.00	
Yes	Install low-flow Shower	20.00	
No	Turf Reduction	0.00	
Yes	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape	0.00	0.00

Solid Waste Mitigation

Mitigation Measures	Input Value
Institute Recycling and Composting Services Percent Reduction in Waste Disposed	

CalEEMod Output: Phase 1 Operation – Year 2040 Proposed Project (Trucks)

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Operation Phase 1 (Trucks) Year 2040 - Kings County, Annual

Operation Phase 1 (Trucks) Year 2040

Kings County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	494.02	1000sqft	11.34	494,021.30	0
Other Non-Asphalt Surfaces	354.34	1000sqft	14.33	0.00	0
Parking Lot	5.75	Acre	5.75	250,470.00	0
Fast Food Restaurant with Drive Thru	9.85	1000sqft	0.23	9,847.00	0
High Turnover (Sit Down Restaurant)	10.03	1000sqft	0.23	10,026.00	0
Motel	187.00	Room	0.61	106,131.00	0
Convenience Market With Gas Pumps	23.26	1000sqft	0.53	23,261.00	0
Regional Shopping Center	11.98	1000sqft	0.28	11,980.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	37
Climate Zone	3			**Operational Year**	2040
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	189.07	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See assumptions file

Land Use - See assumptions file

Construction Phase -

Vehicle Trips - See assumptions file.

Area Coating - Truck mobile emissions only.

Energy Use - Truck mobile emissions only.

Water And Wastewater - Truck mobile emissions only.

Solid Waste - Truck mobile emissions only.

Energy Mitigation -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	80623	0
tblAreaCoating	Area_Nonresidential_Interior	241868	0
tblAreaCoating	Area_Parking	44669	0
tblEnergyUse	LightingElect	3.71	0.00
tblEnergyUse	LightingElect	6.17	0.00
tblEnergyUse	LightingElect	6.17	0.00
tblEnergyUse	LightingElect	1.51	0.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	LightingElect	3.71	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	16.25	0.00
tblEnergyUse	NT24E	16.25	0.00
tblEnergyUse	NT24E	2.30	0.00
tblEnergyUse	NT24E	2.30	0.00

tblEnergyUse	NT24NG	2.08	0.00
tblEnergyUse	NT24NG	174.70	0.00
tblEnergyUse	NT24NG	174.70	0.00
tblEnergyUse	NT24NG	7.16	0.00
tblEnergyUse	NT24NG	2.08	0.00
tblEnergyUse	T24E	2.14	0.00
tblEnergyUse	T24E	6.55	0.00
tblEnergyUse	T24E	6.55	0.00
tblEnergyUse	T24E	4.13	0.00
tblEnergyUse	T24E	2.14	0.00
tblEnergyUse	T24NG	8.62	0.00
tblEnergyUse	T24NG	35.72	0.00
tblEnergyUse	T24NG	35.72	0.00
tblEnergyUse	T24NG	17.99	0.00
tblEnergyUse	T24NG	8.62	0.00
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tblFleetMix	HHD	0.16	1.00
tblFleetMix	HHD	0.16	1.00
tblFleetMix	HHD	0.16	1.00
tblFleetMix	HHD	0.16	1.00
tblFleetMix	LDA	0.53	0.00
tblFleetMix	LDA	0.53	0.00
tblFleetMix	LDA	0.53	0.00
tblFleetMix	LDA	0.53	0.00
tblFleetMix	LDA	0.53	0.00
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tblFleetMix	LDT1	0.03	0.00

tblFleetMix	LDT1	0.03	0.00
tblFleetMix	LDT1	0.03	0.00
tblFleetMix	LDT1	0.03	0.00
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tblFleetMix	LDT2	0.16	0.00
tblFleetMix	LDT2	0.16	0.00
tblFleetMix	LDT2	0.16	0.00
tblFleetMix	LDT2	0.16	0.00
tblFleetMix	LHD1	8.0700e-003	0.00
tblFleetMix	LHD1	8.0700e-003	0.00
tblFleetMix	LHD1	8.0700e-003	0.00
tblFleetMix	LHD1	8.0700e-003	0.00
tblFleetMix	LHD1	8.0700e-003	0.00
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tblFleetMix	MDV	0.09	0.00
tblFleetMix	MDV	0.09	0.00
tblFleetMix	MDV	0.09	0.00

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tblFleetMix	UBUS	1.1990e-003	0.00
tblFleetMix	UBUS	1.1990e-003	0.00
tblFleetMix	UBUS	1.1990e-003	0.00
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tblLandUse	LandUseSquareFeet	10,030.00	10,026.00
tblLandUse	LandUseSquareFeet	366,557.40	106,131.00
tblLandUse	LandUseSquareFeet	23,260.00	23,261.00
tblLandUse	LotAcreage	8.13	14.33
tblLandUse	LotAcreage	8.41	0.61
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tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
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tblSolidWaste	SolidWasteGenerationRate	113.46	0.00
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tblSolidWaste	SolidWasteGenerationRate	102.38	0.00
tblSolidWaste	SolidWasteGenerationRate	12.58	0.00
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tblVehicleEF	HHD	5.2930e-003	0.03

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tblVehicleEF	LDT1	0.03	0.13
tblVehicleEF	LDT1	0.04	0.04
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tblVehicleEF	LDT1	1.2090e-003	8.2945e-004
tblVehicleEF	LDT1	0.03	0.04
tblVehicleEF	LDT1	0.06	0.06
tblVehicleEF	LDT1	0.02	0.03
tblVehicleEF	LDT1	4.8800e-003	2.4429e-003
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tblVehicleEF	LDT1	0.02	0.08

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tblVehicleEF	LDT1	0.06	0.06
tblVehicleEF	LDT1	0.02	0.03
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tblVehicleEF	LDT1	0.02	0.09
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tblVehicleEF	LDT1	8.0000e-003	8.0000e-003
tblVehicleEF	LDT1	8.2000e-004	6.3153e-004
tblVehicleEF	LDT1	1.3150e-003	9.0211e-004
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	2.0000e-003	2.0000e-003
tblVehicleEF	LDT1	7.5400e-004	5.8070e-004
tblVehicleEF	LDT1	1.2090e-003	8.2945e-004
tblVehicleEF	LDT1	0.07	0.09
tblVehicleEF	LDT1	0.07	0.06
tblVehicleEF	LDT1	0.05	0.07

tblVehicleEF	LDT1	5.6210e-003	2.8122e-003
tblVehicleEF	LDT1	0.05	0.22
tblVehicleEF	LDT1	0.01	0.07
tblVehicleEF	LDT1	2.2760e-003	2.4018e-003
tblVehicleEF	LDT1	4.7000e-004	4.4104e-004
tblVehicleEF	LDT1	0.07	0.09
tblVehicleEF	LDT1	0.07	0.07
tblVehicleEF	LDT1	0.05	0.07
tblVehicleEF	LDT1	8.1980e-003	4.1397e-003
tblVehicleEF	LDT1	0.05	0.22
tblVehicleEF	LDT1	0.02	0.07
tblVehicleEF	LDT1	1.8340e-003	7.2906e-004
tblVehicleEF	LDT1	1.6100e-003	0.02
tblVehicleEF	LDT1	0.32	0.37
tblVehicleEF	LDT1	0.66	1.86
tblVehicleEF	LDT1	198.67	216.32
tblVehicleEF	LDT1	46.36	45.55
tblVehicleEF	LDT1	0.03	0.02
tblVehicleEF	LDT1	0.03	0.14
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	8.0000e-003	8.0000e-003
tblVehicleEF	LDT1	8.2000e-004	6.3153e-004
tblVehicleEF	LDT1	1.3150e-003	9.0211e-004
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	2.0000e-003	2.0000e-003
tblVehicleEF	LDT1	7.5400e-004	5.8070e-004
tblVehicleEF	LDT1	1.2090e-003	8.2945e-004

tblVehicleEF	LDT1	8.7450e-003	0.01
tblVehicleEF	LDT1	0.06	0.06
tblVehicleEF	LDT1	7.9200e-003	0.01
tblVehicleEF	LDT1	4.5480e-003	2.2774e-003
tblVehicleEF	LDT1	0.06	0.27
tblVehicleEF	LDT1	0.02	0.10
tblVehicleEF	LDT1	1.9880e-003	2.1406e-003
tblVehicleEF	LDT1	4.7400e-004	4.5080e-004
tblVehicleEF	LDT1	8.7450e-003	0.01
tblVehicleEF	LDT1	0.06	0.06
tblVehicleEF	LDT1	7.9200e-003	0.01
tblVehicleEF	LDT1	6.6340e-003	3.3523e-003
tblVehicleEF	LDT1	0.06	0.27
tblVehicleEF	LDT1	0.02	0.11
tblVehicleEF	LDT2	2.1460e-003	9.8952e-004
tblVehicleEF	LDT2	1.4260e-003	0.03
tblVehicleEF	LDT2	0.41	0.46
tblVehicleEF	LDT2	0.58	1.89
tblVehicleEF	LDT2	237.91	223.43
tblVehicleEF	LDT2	52.93	45.05
tblVehicleEF	LDT2	0.03	0.02
tblVehicleEF	LDT2	0.03	0.12
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	8.0000e-003	8.0000e-003
tblVehicleEF	LDT2	7.8500e-004	6.3465e-004
tblVehicleEF	LDT2	1.2300e-003	8.3153e-004
tblVehicleEF	LDT2	0.02	0.02

tblVehicleEF	LDT2	2.0000e-003	2.0000e-003
tblVehicleEF	LDT2	7.2200e-004	5.8503e-004
tblVehicleEF	LDT2	1.1310e-003	7.6456e-004
tblVehicleEF	LDT2	0.03	0.05
tblVehicleEF	LDT2	0.05	0.06
tblVehicleEF	LDT2	0.02	0.04
tblVehicleEF	LDT2	5.3420e-003	3.2390e-003
tblVehicleEF	LDT2	0.04	0.22
tblVehicleEF	LDT2	0.02	0.10
tblVehicleEF	LDT2	2.3810e-003	2.2102e-003
tblVehicleEF	LDT2	5.3800e-004	4.4582e-004
tblVehicleEF	LDT2	0.03	0.05
tblVehicleEF	LDT2	0.05	0.06
tblVehicleEF	LDT2	0.02	0.04
tblVehicleEF	LDT2	7.7830e-003	4.7161e-003
tblVehicleEF	LDT2	0.04	0.22
tblVehicleEF	LDT2	0.02	0.11
tblVehicleEF	LDT2	2.4720e-003	1.1546e-003
tblVehicleEF	LDT2	1.2350e-003	0.02
tblVehicleEF	LDT2	0.51	0.57
tblVehicleEF	LDT2	0.51	1.59
tblVehicleEF	LDT2	261.22	240.39
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tblVehicleEF	LDT2	0.03	0.02
tblVehicleEF	LDT2	0.03	0.12
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	8.0000e-003	8.0000e-003

tblVehicleEF	LDT2	7.8500e-004	6.3465e-004
tblVehicleEF	LDT2	1.2300e-003	8.3153e-004
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	2.0000e-003	2.0000e-003
tblVehicleEF	LDT2	7.2200e-004	5.8503e-004
tblVehicleEF	LDT2	1.1310e-003	7.6456e-004
tblVehicleEF	LDT2	0.07	0.11
tblVehicleEF	LDT2	0.06	0.07
tblVehicleEF	LDT2	0.05	0.09
tblVehicleEF	LDT2	6.1500e-003	3.7062e-003
tblVehicleEF	LDT2	0.04	0.21
tblVehicleEF	LDT2	0.02	0.09
tblVehicleEF	LDT2	2.6150e-003	2.3780e-003
tblVehicleEF	LDT2	5.3700e-004	4.4066e-004
tblVehicleEF	LDT2	0.07	0.11
tblVehicleEF	LDT2	0.06	0.07
tblVehicleEF	LDT2	0.05	0.09
tblVehicleEF	LDT2	8.9620e-003	5.4039e-003
tblVehicleEF	LDT2	0.04	0.21
tblVehicleEF	LDT2	0.02	0.09
tblVehicleEF	LDT2	2.0000e-003	9.0742e-004
tblVehicleEF	LDT2	1.6380e-003	0.03
tblVehicleEF	LDT2	0.38	0.42
tblVehicleEF	LDT2	0.67	2.34
tblVehicleEF	LDT2	228.40	216.53
tblVehicleEF	LDT2	52.93	45.80
tblVehicleEF	LDT2	0.03	0.02

tblVehicleEF	LDT2	0.03	0.14
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	8.0000e-003	8.0000e-003
tblVehicleEF	LDT2	7.8500e-004	6.3465e-004
tblVehicleEF	LDT2	1.2300e-003	8.3153e-004
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	2.0000e-003	2.0000e-003
tblVehicleEF	LDT2	7.2200e-004	5.8503e-004
tblVehicleEF	LDT2	1.1310e-003	7.6456e-004
tblVehicleEF	LDT2	8.6770e-003	0.01
tblVehicleEF	LDT2	0.05	0.06
tblVehicleEF	LDT2	7.8710e-003	0.01
tblVehicleEF	LDT2	4.9800e-003	3.0297e-003
tblVehicleEF	LDT2	0.05	0.26
tblVehicleEF	LDT2	0.02	0.12
tblVehicleEF	LDT2	2.2860e-003	2.1418e-003
tblVehicleEF	LDT2	5.4000e-004	4.5323e-004
tblVehicleEF	LDT2	8.6770e-003	0.01
tblVehicleEF	LDT2	0.05	0.06
tblVehicleEF	LDT2	7.8710e-003	0.01
tblVehicleEF	LDT2	7.2550e-003	4.4079e-003
tblVehicleEF	LDT2	0.05	0.26
tblVehicleEF	LDT2	0.02	0.13
tblVehicleEF	LHD1	2.9730e-003	3.3260e-003
tblVehicleEF	LHD1	5.1770e-003	4.0561e-003
tblVehicleEF	LHD1	5.0910e-003	5.8772e-003
tblVehicleEF	LHD1	0.13	0.17

tblVehicleEF	LHD1	0.47	0.39
tblVehicleEF	LHD1	1.04	0.72
tblVehicleEF	LHD1	8.97	7.86
tblVehicleEF	LHD1	620.13	639.44
tblVehicleEF	LHD1	22.79	8.37
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.41	0.19
tblVehicleEF	LHD1	0.40	0.16
tblVehicleEF	LHD1	7.4600e-004	1.0351e-003
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.7050e-003	6.5038e-003
tblVehicleEF	LHD1	4.6500e-004	1.7200e-004
tblVehicleEF	LHD1	7.1400e-004	9.9033e-004
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.6340e-003	2.5061e-003
tblVehicleEF	LHD1	8.3000e-003	6.1821e-003
tblVehicleEF	LHD1	4.2700e-004	1.5815e-004
tblVehicleEF	LHD1	1.4650e-003	1.4209e-003
tblVehicleEF	LHD1	0.04	0.04
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	7.8800e-004	7.5434e-004
tblVehicleEF	LHD1	0.09	0.07
tblVehicleEF	LHD1	0.09	0.18
tblVehicleEF	LHD1	0.07	0.03
tblVehicleEF	LHD1	8.9000e-005	7.5856e-005
tblVehicleEF	LHD1	6.0470e-003	6.2260e-003

tblVehicleEF	LHD1	2.4600e-004	8.2864e-005
tblVehicleEF	LHD1	1.4650e-003	1.4209e-003
tblVehicleEF	LHD1	0.04	0.04
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	7.8800e-004	7.5434e-004
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.09	0.18
tblVehicleEF	LHD1	0.08	0.03
tblVehicleEF	LHD1	2.9730e-003	3.3353e-003
tblVehicleEF	LHD1	5.2110e-003	4.0875e-003
tblVehicleEF	LHD1	4.8090e-003	5.5716e-003
tblVehicleEF	LHD1	0.13	0.17
tblVehicleEF	LHD1	0.48	0.39
tblVehicleEF	LHD1	0.97	0.68
tblVehicleEF	LHD1	8.97	7.86
tblVehicleEF	LHD1	620.13	639.44
tblVehicleEF	LHD1	22.79	8.29
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.39	0.18
tblVehicleEF	LHD1	0.37	0.15
tblVehicleEF	LHD1	7.4600e-004	1.0351e-003
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.7050e-003	6.5038e-003
tblVehicleEF	LHD1	4.6500e-004	1.7200e-004
tblVehicleEF	LHD1	7.1400e-004	9.9033e-004
tblVehicleEF	LHD1	0.03	0.03

tblVehicleEF	LHD1	2.6340e-003	2.5061e-003
tblVehicleEF	LHD1	8.3000e-003	6.1821e-003
tblVehicleEF	LHD1	4.2700e-004	1.5815e-004
tblVehicleEF	LHD1	3.3490e-003	3.2645e-003
tblVehicleEF	LHD1	0.05	0.04
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	1.5190e-003	1.4710e-003
tblVehicleEF	LHD1	0.09	0.07
tblVehicleEF	LHD1	0.09	0.18
tblVehicleEF	LHD1	0.06	0.02
tblVehicleEF	LHD1	8.9000e-005	7.5856e-005
tblVehicleEF	LHD1	6.0470e-003	6.2261e-003
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tblVehicleEF	LHD1	3.3490e-003	3.2645e-003
tblVehicleEF	LHD1	0.05	0.04
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.5190e-003	1.4710e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.09	0.18
tblVehicleEF	LHD1	0.07	0.03
tblVehicleEF	LHD1	2.9730e-003	3.3152e-003
tblVehicleEF	LHD1	5.1390e-003	4.0200e-003
tblVehicleEF	LHD1	5.4300e-003	6.2415e-003
tblVehicleEF	LHD1	0.13	0.17
tblVehicleEF	LHD1	0.47	0.39
tblVehicleEF	LHD1	1.13	0.79
tblVehicleEF	LHD1	8.97	7.86

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tblVehicleEF	LHD1	22.79	8.48
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.42	0.20
tblVehicleEF	LHD1	0.43	0.17
tblVehicleEF	LHD1	7.4600e-004	1.0351e-003
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.7050e-003	6.5038e-003
tblVehicleEF	LHD1	4.6500e-004	1.7200e-004
tblVehicleEF	LHD1	7.1400e-004	9.9033e-004
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.6340e-003	2.5061e-003
tblVehicleEF	LHD1	8.3000e-003	6.1821e-003
tblVehicleEF	LHD1	4.2700e-004	1.5815e-004
tblVehicleEF	LHD1	4.9900e-004	4.7508e-004
tblVehicleEF	LHD1	0.04	0.04
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	3.2200e-004	3.0395e-004
tblVehicleEF	LHD1	0.09	0.07
tblVehicleEF	LHD1	0.10	0.19
tblVehicleEF	LHD1	0.07	0.03
tblVehicleEF	LHD1	8.9000e-005	7.5856e-005
tblVehicleEF	LHD1	6.0470e-003	6.2260e-003
tblVehicleEF	LHD1	2.4800e-004	8.3934e-005
tblVehicleEF	LHD1	4.9900e-004	4.7508e-004
tblVehicleEF	LHD1	0.04	0.04

tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	3.2200e-004	3.0395e-004
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.10	0.19
tblVehicleEF	LHD1	0.08	0.03
tblVehicleEF	LHD2	2.1560e-003	2.0467e-003
tblVehicleEF	LHD2	4.7160e-003	4.9567e-003
tblVehicleEF	LHD2	2.0450e-003	3.0308e-003
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.43	0.49
tblVehicleEF	LHD2	0.81	0.40
tblVehicleEF	LHD2	13.35	12.50
tblVehicleEF	LHD2	661.52	628.25
tblVehicleEF	LHD2	20.92	5.35
tblVehicleEF	LHD2	0.05	0.07
tblVehicleEF	LHD2	0.09	0.27
tblVehicleEF	LHD2	0.19	0.09
tblVehicleEF	LHD2	8.7400e-004	1.5380e-003
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	7.2360e-003	0.01
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tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	2.7120e-003	2.7295e-003
tblVehicleEF	LHD2	6.8990e-003	0.01
tblVehicleEF	LHD2	3.4900e-004	8.5149e-005

tblVehicleEF	LHD2	6.4300e-004	7.3780e-004
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.01	0.01
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tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.03	0.09
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	1.3000e-004	1.1919e-004
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tblVehicleEF	LHD2	6.4300e-004	7.3780e-004
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	3.4200e-004	3.9731e-004
tblVehicleEF	LHD2	0.10	0.11
tblVehicleEF	LHD2	0.03	0.09
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	2.1560e-003	2.0518e-003
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tblVehicleEF	LHD2	2.0250e-003	2.8727e-003
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tblVehicleEF	LHD2	0.43	0.49
tblVehicleEF	LHD2	0.76	0.38
tblVehicleEF	LHD2	13.35	12.50
tblVehicleEF	LHD2	661.52	628.25
tblVehicleEF	LHD2	20.92	5.31
tblVehicleEF	LHD2	0.05	0.07

tblVehicleEF	LHD2	0.09	0.26
tblVehicleEF	LHD2	0.19	0.08
tblVehicleEF	LHD2	8.7400e-004	1.5380e-003
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	7.2360e-003	0.01
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tblVehicleEF	LHD2	8.3600e-004	1.4715e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	2.7120e-003	2.7295e-003
tblVehicleEF	LHD2	6.8990e-003	0.01
tblVehicleEF	LHD2	3.4900e-004	8.5149e-005
tblVehicleEF	LHD2	1.4820e-003	1.6910e-003
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	6.7500e-004	7.7220e-004
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.03	0.09
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	1.3000e-004	1.1919e-004
tblVehicleEF	LHD2	6.4260e-003	6.0529e-003
tblVehicleEF	LHD2	2.2200e-004	5.2506e-005
tblVehicleEF	LHD2	1.4820e-003	1.6910e-003
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	6.7500e-004	7.7220e-004
tblVehicleEF	LHD2	0.10	0.11

tblVehicleEF	LHD2	0.03	0.09
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	2.1560e-003	2.0407e-003
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tblVehicleEF	LHD2	2.0690e-003	3.2190e-003
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tblVehicleEF	LHD2	13.35	12.50
tblVehicleEF	LHD2	661.52	628.25
tblVehicleEF	LHD2	20.92	5.41
tblVehicleEF	LHD2	0.05	0.07
tblVehicleEF	LHD2	0.09	0.27
tblVehicleEF	LHD2	0.19	0.10
tblVehicleEF	LHD2	8.7400e-004	1.5380e-003
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01
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tblVehicleEF	LHD2	3.7900e-004	9.2607e-005
tblVehicleEF	LHD2	8.3600e-004	1.4715e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	2.7120e-003	2.7295e-003
tblVehicleEF	LHD2	6.8990e-003	0.01
tblVehicleEF	LHD2	3.4900e-004	8.5149e-005
tblVehicleEF	LHD2	2.1100e-004	2.4733e-004
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.01	0.01

tblVehicleEF	LHD2	1.3600e-004	1.6052e-004
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.03	0.10
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	1.3000e-004	1.1919e-004
tblVehicleEF	LHD2	6.4260e-003	6.0529e-003
tblVehicleEF	LHD2	2.2400e-004	5.3550e-005
tblVehicleEF	LHD2	2.1100e-004	2.4733e-004
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	1.3600e-004	1.6052e-004
tblVehicleEF	LHD2	0.10	0.11
tblVehicleEF	LHD2	0.03	0.10
tblVehicleEF	LHD2	0.03	0.02
tblVehicleEF	MCY	0.45	0.32
tblVehicleEF	MCY	0.15	0.24
tblVehicleEF	MCY	17.12	17.10
tblVehicleEF	MCY	10.32	9.18
tblVehicleEF	MCY	169.79	211.77
tblVehicleEF	MCY	42.14	58.18
tblVehicleEF	MCY	1.13	1.13
tblVehicleEF	MCY	0.31	0.27
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	4.0000e-003	4.0000e-003
tblVehicleEF	MCY	2.2030e-003	2.2031e-003
tblVehicleEF	MCY	3.2220e-003	2.8608e-003
tblVehicleEF	MCY	5.0400e-003	5.0400e-003

tblVehicleEF	MCY	1.0000e-003	1.0000e-003
tblVehicleEF	MCY	2.0540e-003	2.0540e-003
tblVehicleEF	MCY	3.0080e-003	2.6699e-003
tblVehicleEF	MCY	1.58	1.57
tblVehicleEF	MCY	0.83	0.83
tblVehicleEF	MCY	0.80	0.80
tblVehicleEF	MCY	2.10	2.10
tblVehicleEF	MCY	0.35	1.30
tblVehicleEF	MCY	2.05	1.82
tblVehicleEF	MCY	2.0410e-003	2.0956e-003
tblVehicleEF	MCY	6.5000e-004	5.7575e-004
tblVehicleEF	MCY	1.58	1.57
tblVehicleEF	MCY	0.83	0.83
tblVehicleEF	MCY	0.80	0.80
tblVehicleEF	MCY	2.63	2.63
tblVehicleEF	MCY	0.35	1.30
tblVehicleEF	MCY	2.23	1.98
tblVehicleEF	MCY	0.45	0.31
tblVehicleEF	MCY	0.13	0.21
tblVehicleEF	MCY	17.45	17.42
tblVehicleEF	MCY	9.10	8.06
tblVehicleEF	MCY	169.79	212.18
tblVehicleEF	MCY	42.14	55.55
tblVehicleEF	MCY	0.99	0.99
tblVehicleEF	MCY	0.29	0.25
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	4.0000e-003	4.0000e-003

tblVehicleEF	MCY	2.2030e-003	2.2031e-003
tblVehicleEF	MCY	3.2220e-003	2.8608e-003
tblVehicleEF	MCY	5.0400e-003	5.0400e-003
tblVehicleEF	MCY	1.0000e-003	1.0000e-003
tblVehicleEF	MCY	2.0540e-003	2.0540e-003
tblVehicleEF	MCY	3.0080e-003	2.6699e-003
tblVehicleEF	MCY	3.96	3.94
tblVehicleEF	MCY	1.36	1.36
tblVehicleEF	MCY	2.05	2.05
tblVehicleEF	MCY	2.07	2.07
tblVehicleEF	MCY	0.34	1.27
tblVehicleEF	MCY	1.77	1.56
tblVehicleEF	MCY	2.0450e-003	2.0996e-003
tblVehicleEF	MCY	6.2200e-004	5.4972e-004
tblVehicleEF	MCY	3.96	3.94
tblVehicleEF	MCY	1.36	1.36
tblVehicleEF	MCY	2.05	2.05
tblVehicleEF	MCY	2.60	2.59
tblVehicleEF	MCY	0.34	1.27
tblVehicleEF	MCY	1.92	1.70
tblVehicleEF	MCY	0.47	0.33
tblVehicleEF	MCY	0.18	0.29
tblVehicleEF	MCY	18.29	18.26
tblVehicleEF	MCY	12.31	11.00
tblVehicleEF	MCY	169.79	213.90
tblVehicleEF	MCY	42.14	62.27
tblVehicleEF	MCY	1.23	1.23

tblVehicleEF	MCY	0.34	0.29
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	4.0000e-003	4.0000e-003
tblVehicleEF	MCY	2.2030e-003	2.2031e-003
tblVehicleEF	MCY	3.2220e-003	2.8608e-003
tblVehicleEF	MCY	5.0400e-003	5.0400e-003
tblVehicleEF	MCY	1.0000e-003	1.0000e-003
tblVehicleEF	MCY	2.0540e-003	2.0540e-003
tblVehicleEF	MCY	3.0080e-003	2.6699e-003
tblVehicleEF	MCY	0.39	0.39
tblVehicleEF	MCY	0.78	0.77
tblVehicleEF	MCY	0.18	0.18
tblVehicleEF	MCY	2.17	2.17
tblVehicleEF	MCY	0.43	1.57
tblVehicleEF	MCY	2.45	2.18
tblVehicleEF	MCY	2.0620e-003	2.1167e-003
tblVehicleEF	MCY	6.9400e-004	6.1622e-004
tblVehicleEF	MCY	0.39	0.39
tblVehicleEF	MCY	0.78	0.77
tblVehicleEF	MCY	0.18	0.18
tblVehicleEF	MCY	2.73	2.73
tblVehicleEF	MCY	0.43	1.57
tblVehicleEF	MCY	2.67	2.37
tblVehicleEF	MDV	2.6910e-003	1.0010e-003
tblVehicleEF	MDV	3.5610e-003	0.03
tblVehicleEF	MDV	0.47	0.46
tblVehicleEF	MDV	0.94	1.96

tblVehicleEF	MDV	312.80	270.52
tblVehicleEF	MDV	70.59	54.80
tblVehicleEF	MDV	0.04	0.02
tblVehicleEF	MDV	0.07	0.14
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	8.0000e-003	8.0000e-003
tblVehicleEF	MDV	8.0700e-004	6.1893e-004
tblVehicleEF	MDV	1.3260e-003	8.7148e-004
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	2.0000e-003	2.0000e-003
tblVehicleEF	MDV	7.4300e-004	5.7036e-004
tblVehicleEF	MDV	1.2200e-003	8.0129e-004
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.11	0.09
tblVehicleEF	MDV	0.06	0.07
tblVehicleEF	MDV	6.7940e-003	3.3714e-003
tblVehicleEF	MDV	0.06	0.27
tblVehicleEF	MDV	0.05	0.12
tblVehicleEF	MDV	3.1260e-003	2.6732e-003
tblVehicleEF	MDV	7.2100e-004	5.4233e-004
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.11	0.09
tblVehicleEF	MDV	0.06	0.07
tblVehicleEF	MDV	9.8650e-003	4.8980e-003
tblVehicleEF	MDV	0.06	0.27
tblVehicleEF	MDV	0.05	0.13
tblVehicleEF	MDV	3.0980e-003	1.1692e-003

tblVehicleEF	MDV	2.9890e-003	0.02
tblVehicleEF	MDV	0.58	0.57
tblVehicleEF	MDV	0.81	1.64
tblVehicleEF	MDV	342.71	287.23
tblVehicleEF	MDV	70.59	54.25
tblVehicleEF	MDV	0.04	0.02
tblVehicleEF	MDV	0.07	0.13
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	8.0000e-003	8.0000e-003
tblVehicleEF	MDV	8.0700e-004	6.1893e-004
tblVehicleEF	MDV	1.3260e-003	8.7148e-004
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	2.0000e-003	2.0000e-003
tblVehicleEF	MDV	7.4300e-004	5.7036e-004
tblVehicleEF	MDV	1.2200e-003	8.0129e-004
tblVehicleEF	MDV	0.16	0.19
tblVehicleEF	MDV	0.12	0.11
tblVehicleEF	MDV	0.12	0.15
tblVehicleEF	MDV	7.8010e-003	3.8530e-003
tblVehicleEF	MDV	0.06	0.26
tblVehicleEF	MDV	0.04	0.10
tblVehicleEF	MDV	3.4270e-003	2.8385e-003
tblVehicleEF	MDV	7.1900e-004	5.3688e-004
tblVehicleEF	MDV	0.16	0.19
tblVehicleEF	MDV	0.12	0.11
tblVehicleEF	MDV	0.12	0.15
tblVehicleEF	MDV	0.01	5.6071e-003

tblVehicleEF	MDV	0.06	0.27
tblVehicleEF	MDV	0.04	0.11
tblVehicleEF	MDV	2.5080e-003	9.1733e-004
tblVehicleEF	MDV	4.1950e-003	0.03
tblVehicleEF	MDV	0.43	0.42
tblVehicleEF	MDV	1.12	2.42
tblVehicleEF	MDV	300.60	263.72
tblVehicleEF	MDV	70.59	55.59
tblVehicleEF	MDV	0.04	0.02
tblVehicleEF	MDV	0.08	0.16
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	8.0000e-003	8.0000e-003
tblVehicleEF	MDV	8.0700e-004	6.1893e-004
tblVehicleEF	MDV	1.3260e-003	8.7148e-004
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	2.0000e-003	2.0000e-003
tblVehicleEF	MDV	7.4300e-004	5.7036e-004
tblVehicleEF	MDV	1.2200e-003	8.0129e-004
tblVehicleEF	MDV	0.02	0.03
tblVehicleEF	MDV	0.10	0.09
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	6.3430e-003	3.1556e-003
tblVehicleEF	MDV	0.08	0.32
tblVehicleEF	MDV	0.06	0.14
tblVehicleEF	MDV	3.0040e-003	2.6059e-003
tblVehicleEF	MDV	7.2400e-004	5.5011e-004
tblVehicleEF	MDV	0.02	0.03

tblVehicleEF	MDV	0.10	0.09
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	9.2060e-003	4.5803e-003
tblVehicleEF	MDV	0.08	0.32
tblVehicleEF	MDV	0.06	0.16
tblVehicleEF	MH	4.8350e-003	4.1206e-003
tblVehicleEF	MH	0.01	0.00
tblVehicleEF	MH	0.22	0.28
tblVehicleEF	MH	3.10	0.00
tblVehicleEF	MH	1,172.19	871.52
tblVehicleEF	MH	55.35	0.00
tblVehicleEF	MH	0.71	2.98
tblVehicleEF	MH	0.53	0.00
tblVehicleEF	MH	0.13	0.13
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	7.9380e-003	0.04
tblVehicleEF	MH	8.6500e-004	0.00
tblVehicleEF	MH	0.06	0.06
tblVehicleEF	MH	3.2240e-003	4.0000e-003
tblVehicleEF	MH	7.5550e-003	0.04
tblVehicleEF	MH	7.9500e-004	0.00
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tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.16	0.00
tblVehicleEF	MH	0.03	0.09
tblVehicleEF	MH	3.0550e-003	0.00
tblVehicleEF	MH	0.19	0.00

tblVehicleEF	MH	0.01	8.2390e-003
tblVehicleEF	MH	6.0700e-004	0.00
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tblVehicleEF	MH	0.04	0.10
tblVehicleEF	MH	3.0550e-003	0.00
tblVehicleEF	MH	0.20	0.00
tblVehicleEF	MH	4.9510e-003	4.1206e-003
tblVehicleEF	MH	0.01	0.00
tblVehicleEF	MH	0.23	0.28
tblVehicleEF	MH	2.81	0.00
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tblVehicleEF	MH	0.67	2.84
tblVehicleEF	MH	0.50	0.00
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tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	7.9380e-003	0.04
tblVehicleEF	MH	8.6500e-004	0.00
tblVehicleEF	MH	0.06	0.06
tblVehicleEF	MH	3.2240e-003	4.0000e-003
tblVehicleEF	MH	7.5550e-003	0.04
tblVehicleEF	MH	7.9500e-004	0.00
tblVehicleEF	MH	1.00	0.00
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.30	0.00

tblVehicleEF	MH	0.03	0.09
tblVehicleEF	MH	3.0160e-003	0.00
tblVehicleEF	MH	0.18	0.00
tblVehicleEF	MH	0.01	8.2390e-003
tblVehicleEF	MH	6.0200e-004	0.00
tblVehicleEF	MH	1.00	0.00
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.30	0.00
tblVehicleEF	MH	0.04	0.10
tblVehicleEF	MH	3.0160e-003	0.00
tblVehicleEF	MH	0.19	0.00
tblVehicleEF	MH	4.6960e-003	4.1206e-003
tblVehicleEF	MH	0.01	0.00
tblVehicleEF	MH	0.21	0.28
tblVehicleEF	MH	3.46	0.00
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tblVehicleEF	MH	55.35	0.00
tblVehicleEF	MH	0.73	3.03
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tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	7.9380e-003	0.04
tblVehicleEF	MH	8.6500e-004	0.00
tblVehicleEF	MH	0.06	0.06
tblVehicleEF	MH	3.2240e-003	4.0000e-003
tblVehicleEF	MH	7.5550e-003	0.04
tblVehicleEF	MH	7.9500e-004	0.00

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tblVehicleEF	MH	0.08	0.00
tblVehicleEF	MH	0.03	0.09
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tblVehicleEF	MH	0.20	0.00
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tblVehicleEF	MH	0.15	0.00
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.08	0.00
tblVehicleEF	MH	0.03	0.10
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tblVehicleEF	MH	0.22	0.00
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tblVehicleEF	MHD	2.4940e-003	1.0737e-003
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tblVehicleEF	MHD	0.36	0.49
tblVehicleEF	MHD	0.23	0.16
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tblVehicleEF	MHD	1,166.86	1,003.01
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tblVehicleEF	MHD	0.35	0.33
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tblVehicleEF	MHD	10.38	1.58
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tblVehicleEF	MHD	2.9140e-003	8.0330e-003
tblVehicleEF	MHD	8.0400e-004	1.5213e-004
tblVehicleEF	MHD	3.1000e-005	9.1534e-005
tblVehicleEF	MHD	0.06	0.06
tblVehicleEF	MHD	3.0000e-003	3.0000e-003
tblVehicleEF	MHD	2.7800e-003	7.6762e-003
tblVehicleEF	MHD	7.3900e-004	1.3988e-004
tblVehicleEF	MHD	8.2200e-004	5.6619e-004
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tblVehicleEF	MHD	0.01	0.09
tblVehicleEF	MHD	0.19	0.05
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tblVehicleEF	MHD	0.01	9.5874e-003
tblVehicleEF	MHD	6.0900e-004	1.0562e-004
tblVehicleEF	MHD	8.2200e-004	5.6619e-004
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	0.03	0.03
tblVehicleEF	MHD	4.3900e-004	3.0311e-004
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.01	0.09
tblVehicleEF	MHD	0.20	0.06
tblVehicleEF	MHD	0.02	4.9965e-003

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tblVehicleEF	MHD	0.23	0.16
tblVehicleEF	MHD	2.60	0.95
tblVehicleEF	MHD	144.59	64.17
tblVehicleEF	MHD	1,166.86	1,003.01
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tblVehicleEF	MHD	0.97	1.54
tblVehicleEF	MHD	10.36	1.57
tblVehicleEF	MHD	2.7000e-005	8.4129e-005
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tblVehicleEF	MHD	0.01	0.01
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tblVehicleEF	MHD	8.0400e-004	1.5213e-004
tblVehicleEF	MHD	2.6000e-005	8.0490e-005
tblVehicleEF	MHD	0.06	0.06
tblVehicleEF	MHD	3.0000e-003	3.0000e-003
tblVehicleEF	MHD	2.7800e-003	7.6762e-003
tblVehicleEF	MHD	7.3900e-004	1.3988e-004
tblVehicleEF	MHD	1.8900e-003	1.3020e-003
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	8.6300e-004	5.9442e-004
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	0.01	0.09

tblVehicleEF	MHD	0.18	0.05
tblVehicleEF	MHD	1.3900e-003	6.0990e-004
tblVehicleEF	MHD	0.01	9.5874e-003
tblVehicleEF	MHD	6.0500e-004	1.0437e-004
tblVehicleEF	MHD	1.8900e-003	1.3020e-003
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	0.03	0.03
tblVehicleEF	MHD	8.6300e-004	5.9442e-004
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.01	0.09
tblVehicleEF	MHD	0.19	0.05
tblVehicleEF	MHD	0.02	5.6137e-003
tblVehicleEF	MHD	2.4700e-003	1.0505e-003
tblVehicleEF	MHD	0.03	0.01
tblVehicleEF	MHD	0.47	0.58
tblVehicleEF	MHD	0.23	0.16
tblVehicleEF	MHD	3.06	1.13
tblVehicleEF	MHD	125.34	65.23
tblVehicleEF	MHD	1,166.86	1,003.01
tblVehicleEF	MHD	55.98	10.84
tblVehicleEF	MHD	0.33	0.35
tblVehicleEF	MHD	1.04	1.65
tblVehicleEF	MHD	10.41	1.59
tblVehicleEF	MHD	4.0000e-005	1.1161e-004
tblVehicleEF	MHD	0.13	0.13
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	2.9140e-003	8.0330e-003

tblVehicleEF	MHD	8.0400e-004	1.5213e-004
tblVehicleEF	MHD	3.8000e-005	1.0679e-004
tblVehicleEF	MHD	0.06	0.06
tblVehicleEF	MHD	3.0000e-003	3.0000e-003
tblVehicleEF	MHD	2.7800e-003	7.6762e-003
tblVehicleEF	MHD	7.3900e-004	1.3988e-004
tblVehicleEF	MHD	2.7200e-004	1.8747e-004
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	1.7600e-004	1.2119e-004
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	0.01	0.10
tblVehicleEF	MHD	0.20	0.06
tblVehicleEF	MHD	1.2090e-003	6.1958e-004
tblVehicleEF	MHD	0.01	9.5873e-003
tblVehicleEF	MHD	6.1300e-004	1.0729e-004
tblVehicleEF	MHD	2.7200e-004	1.8747e-004
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	0.04	0.03
tblVehicleEF	MHD	1.7600e-004	1.2119e-004
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.01	0.10
tblVehicleEF	MHD	0.22	0.06
tblVehicleEF	OBUS	0.01	8.6013e-003
tblVehicleEF	OBUS	4.0480e-003	3.0621e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.25	0.61

tblVehicleEF	OBUS	0.28	0.31
tblVehicleEF	OBUS	3.96	2.05
tblVehicleEF	OBUS	100.64	74.57
tblVehicleEF	OBUS	1,266.39	1,211.12
tblVehicleEF	OBUS	65.40	16.70
tblVehicleEF	OBUS	0.22	0.34
tblVehicleEF	OBUS	0.71	1.05
tblVehicleEF	OBUS	2.42	0.81
tblVehicleEF	OBUS	2.0000e-005	1.1667e-004
tblVehicleEF	OBUS	0.13	0.13
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	2.5790e-003	6.9126e-003
tblVehicleEF	OBUS	1.0250e-003	2.1376e-004
tblVehicleEF	OBUS	1.9000e-005	1.1162e-004
tblVehicleEF	OBUS	0.06	0.06
tblVehicleEF	OBUS	3.0000e-003	3.0000e-003
tblVehicleEF	OBUS	2.4400e-003	6.5884e-003
tblVehicleEF	OBUS	9.4300e-004	1.9654e-004
tblVehicleEF	OBUS	1.9400e-003	2.5600e-003
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.03	0.05
tblVehicleEF	OBUS	7.1300e-004	9.5148e-004
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.04	0.31
tblVehicleEF	OBUS	0.26	0.10
tblVehicleEF	OBUS	9.7200e-004	7.0994e-004
tblVehicleEF	OBUS	0.01	0.01

tblVehicleEF	OBUS	7.2400e-004	1.6524e-004
tblVehicleEF	OBUS	1.9400e-003	2.5600e-003
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.05	0.07
tblVehicleEF	OBUS	7.1300e-004	9.5148e-004
tblVehicleEF	OBUS	0.04	0.02
tblVehicleEF	OBUS	0.04	0.31
tblVehicleEF	OBUS	0.28	0.11
tblVehicleEF	OBUS	0.01	8.7013e-003
tblVehicleEF	OBUS	4.1280e-003	3.1499e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.24	0.61
tblVehicleEF	OBUS	0.28	0.32
tblVehicleEF	OBUS	3.60	1.86
tblVehicleEF	OBUS	105.67	73.73
tblVehicleEF	OBUS	1,266.39	1,211.13
tblVehicleEF	OBUS	65.40	16.38
tblVehicleEF	OBUS	0.23	0.33
tblVehicleEF	OBUS	0.67	1.00
tblVehicleEF	OBUS	2.38	0.79
tblVehicleEF	OBUS	1.7000e-005	1.0367e-004
tblVehicleEF	OBUS	0.13	0.13
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	2.5790e-003	6.9126e-003
tblVehicleEF	OBUS	1.0250e-003	2.1376e-004
tblVehicleEF	OBUS	1.6000e-005	9.9183e-005
tblVehicleEF	OBUS	0.06	0.06

tblVehicleEF	OBUS	3.0000e-003	3.0000e-003
tblVehicleEF	OBUS	2.4400e-003	6.5884e-003
tblVehicleEF	OBUS	9.4300e-004	1.9654e-004
tblVehicleEF	OBUS	4.4900e-003	5.8822e-003
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.03	0.05
tblVehicleEF	OBUS	1.3520e-003	1.7625e-003
tblVehicleEF	OBUS	0.04	0.02
tblVehicleEF	OBUS	0.04	0.31
tblVehicleEF	OBUS	0.24	0.09
tblVehicleEF	OBUS	1.0200e-003	7.0200e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.1700e-004	1.6209e-004
tblVehicleEF	OBUS	4.4900e-003	5.8822e-003
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.05	0.07
tblVehicleEF	OBUS	1.3520e-003	1.7625e-003
tblVehicleEF	OBUS	0.04	0.03
tblVehicleEF	OBUS	0.04	0.31
tblVehicleEF	OBUS	0.27	0.10
tblVehicleEF	OBUS	0.01	8.4707e-003
tblVehicleEF	OBUS	3.9530e-003	2.9584e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.26	0.62
tblVehicleEF	OBUS	0.27	0.31
tblVehicleEF	OBUS	4.43	2.29
tblVehicleEF	OBUS	93.70	75.74

tblVehicleEF	OBUS	1,266.39	1,211.10
tblVehicleEF	OBUS	65.40	17.11
tblVehicleEF	OBUS	0.21	0.37
tblVehicleEF	OBUS	0.72	1.08
tblVehicleEF	OBUS	2.47	0.83
tblVehicleEF	OBUS	2.5000e-005	1.3462e-004
tblVehicleEF	OBUS	0.13	0.13
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	2.5790e-003	6.9126e-003
tblVehicleEF	OBUS	1.0250e-003	2.1376e-004
tblVehicleEF	OBUS	2.4000e-005	1.2880e-004
tblVehicleEF	OBUS	0.06	0.06
tblVehicleEF	OBUS	3.0000e-003	3.0000e-003
tblVehicleEF	OBUS	2.4400e-003	6.5884e-003
tblVehicleEF	OBUS	9.4300e-004	1.9654e-004
tblVehicleEF	OBUS	6.6000e-004	9.0272e-004
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.03	0.05
tblVehicleEF	OBUS	3.4400e-004	4.7058e-004
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.04	0.34
tblVehicleEF	OBUS	0.28	0.11
tblVehicleEF	OBUS	9.0600e-004	7.2091e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.3200e-004	1.6929e-004
tblVehicleEF	OBUS	6.6000e-004	9.0272e-004
tblVehicleEF	OBUS	0.02	0.03

tblVehicleEF	OBUS	0.05	0.07
tblVehicleEF	OBUS	3.4400e-004	4.7058e-004
tblVehicleEF	OBUS	0.04	0.02
tblVehicleEF	OBUS	0.04	0.34
tblVehicleEF	OBUS	0.31	0.12
tblVehicleEF	SBUS	0.84	0.05
tblVehicleEF	SBUS	3.3930e-003	1.5240e-003
tblVehicleEF	SBUS	0.05	4.5111e-003
tblVehicleEF	SBUS	5.97	2.59
tblVehicleEF	SBUS	0.27	0.15
tblVehicleEF	SBUS	4.30	0.59
tblVehicleEF	SBUS	1,120.62	278.79
tblVehicleEF	SBUS	1,048.88	830.93
tblVehicleEF	SBUS	40.31	3.36
tblVehicleEF	SBUS	2.64	1.41
tblVehicleEF	SBUS	0.98	1.26
tblVehicleEF	SBUS	14.09	1.86
tblVehicleEF	SBUS	2.0500e-004	4.4050e-004
tblVehicleEF	SBUS	0.74	0.74
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.7750e-003	8.2137e-003
tblVehicleEF	SBUS	8.7800e-004	6.2246e-005
tblVehicleEF	SBUS	1.9600e-004	4.2144e-004
tblVehicleEF	SBUS	0.32	0.32
tblVehicleEF	SBUS	2.6870e-003	2.6995e-003
tblVehicleEF	SBUS	2.6360e-003	7.8403e-003
tblVehicleEF	SBUS	8.0800e-004	5.7233e-005

tblVehicleEF	SBUS	3.8890e-003	9.3056e-004
tblVehicleEF	SBUS	0.02	5.4472e-003
tblVehicleEF	SBUS	0.73	0.25
tblVehicleEF	SBUS	1.4430e-003	3.4440e-004
tblVehicleEF	SBUS	0.04	0.02
tblVehicleEF	SBUS	0.01	0.04
tblVehicleEF	SBUS	0.24	0.02
tblVehicleEF	SBUS	0.01	2.6542e-003
tblVehicleEF	SBUS	0.01	7.9456e-003
tblVehicleEF	SBUS	4.7800e-004	3.3265e-005
tblVehicleEF	SBUS	3.8890e-003	9.3056e-004
tblVehicleEF	SBUS	0.02	5.4472e-003
tblVehicleEF	SBUS	1.05	0.35
tblVehicleEF	SBUS	1.4430e-003	3.4440e-004
tblVehicleEF	SBUS	0.05	0.02
tblVehicleEF	SBUS	0.01	0.04
tblVehicleEF	SBUS	0.26	0.03
tblVehicleEF	SBUS	0.84	0.05
tblVehicleEF	SBUS	3.4430e-003	1.5538e-003
tblVehicleEF	SBUS	0.04	3.6098e-003
tblVehicleEF	SBUS	5.92	2.58
tblVehicleEF	SBUS	0.28	0.15
tblVehicleEF	SBUS	2.86	0.39
tblVehicleEF	SBUS	1,175.39	276.88
tblVehicleEF	SBUS	1,048.88	830.93
tblVehicleEF	SBUS	40.31	3.03
tblVehicleEF	SBUS	2.72	1.36

tblVehicleEF	SBUS	0.93	1.20
tblVehicleEF	SBUS	14.07	1.86
tblVehicleEF	SBUS	1.7300e-004	3.8496e-004
tblVehicleEF	SBUS	0.74	0.74
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.7750e-003	8.2137e-003
tblVehicleEF	SBUS	8.7800e-004	6.2246e-005
tblVehicleEF	SBUS	1.6500e-004	3.6831e-004
tblVehicleEF	SBUS	0.32	0.32
tblVehicleEF	SBUS	2.6870e-003	2.6995e-003
tblVehicleEF	SBUS	2.6360e-003	7.8403e-003
tblVehicleEF	SBUS	8.0800e-004	5.7233e-005
tblVehicleEF	SBUS	8.9670e-003	2.1479e-003
tblVehicleEF	SBUS	0.02	5.7561e-003
tblVehicleEF	SBUS	0.73	0.25
tblVehicleEF	SBUS	2.7070e-003	6.4833e-004
tblVehicleEF	SBUS	0.04	0.02
tblVehicleEF	SBUS	9.7640e-003	0.03
tblVehicleEF	SBUS	0.19	0.02
tblVehicleEF	SBUS	0.01	2.6362e-003
tblVehicleEF	SBUS	0.01	7.9456e-003
tblVehicleEF	SBUS	4.5300e-004	3.0006e-005
tblVehicleEF	SBUS	8.9670e-003	2.1479e-003
tblVehicleEF	SBUS	0.02	5.7561e-003
tblVehicleEF	SBUS	1.05	0.35
tblVehicleEF	SBUS	2.7070e-003	6.4833e-004
tblVehicleEF	SBUS	0.05	0.02

tblVehicleEF	SBUS	9.7640e-003	0.03
tblVehicleEF	SBUS	0.21	0.02
tblVehicleEF	SBUS	0.84	0.05
tblVehicleEF	SBUS	3.3390e-003	1.4924e-003
tblVehicleEF	SBUS	0.06	5.4799e-003
tblVehicleEF	SBUS	6.04	2.61
tblVehicleEF	SBUS	0.27	0.15
tblVehicleEF	SBUS	6.05	0.83
tblVehicleEF	SBUS	1,045.00	281.43
tblVehicleEF	SBUS	1,048.88	830.93
tblVehicleEF	SBUS	40.31	3.76
tblVehicleEF	SBUS	2.52	1.48
tblVehicleEF	SBUS	1.00	1.29
tblVehicleEF	SBUS	14.12	1.87
tblVehicleEF	SBUS	2.4900e-004	5.1719e-004
tblVehicleEF	SBUS	0.74	0.74
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.7750e-003	8.2137e-003
tblVehicleEF	SBUS	8.7800e-004	6.2246e-005
tblVehicleEF	SBUS	2.3900e-004	4.9481e-004
tblVehicleEF	SBUS	0.32	0.32
tblVehicleEF	SBUS	2.6870e-003	2.6995e-003
tblVehicleEF	SBUS	2.6360e-003	7.8403e-003
tblVehicleEF	SBUS	8.0800e-004	5.7233e-005
tblVehicleEF	SBUS	1.3400e-003	3.1921e-004
tblVehicleEF	SBUS	0.02	5.3990e-003
tblVehicleEF	SBUS	0.73	0.24

tblVehicleEF	SBUS	7.0400e-004	1.6744e-004
tblVehicleEF	SBUS	0.04	0.02
tblVehicleEF	SBUS	0.01	0.05
tblVehicleEF	SBUS	0.29	0.03
tblVehicleEF	SBUS	0.01	2.6791e-003
tblVehicleEF	SBUS	0.01	7.9455e-003
tblVehicleEF	SBUS	5.0700e-004	3.7172e-005
tblVehicleEF	SBUS	1.3400e-003	3.1921e-004
tblVehicleEF	SBUS	0.02	5.3990e-003
tblVehicleEF	SBUS	1.06	0.35
tblVehicleEF	SBUS	7.0400e-004	1.6744e-004
tblVehicleEF	SBUS	0.05	0.02
tblVehicleEF	SBUS	0.01	0.05
tblVehicleEF	SBUS	0.31	0.03
tblVehicleEF	UBUS	0.66	7.4265e-003
tblVehicleEF	UBUS	0.06	0.01
tblVehicleEF	UBUS	3.47	0.05
tblVehicleEF	UBUS	8.10	0.89
tblVehicleEF	UBUS	1,745.74	361.33
tblVehicleEF	UBUS	150.22	8.59
tblVehicleEF	UBUS	0.86	0.11
tblVehicleEF	UBUS	11.55	0.10
tblVehicleEF	UBUS	0.48	0.04
tblVehicleEF	UBUS	0.01	3.8321e-003
tblVehicleEF	UBUS	7.2890e-003	1.1362e-003
tblVehicleEF	UBUS	1.6350e-003	1.2158e-004
tblVehicleEF	UBUS	0.20	0.02

tblVehicleEF	UBUS	3.0000e-003	9.5804e-004
tblVehicleEF	UBUS	6.9320e-003	1.0737e-003
tblVehicleEF	UBUS	1.5040e-003	1.1179e-004
tblVehicleEF	UBUS	5.8180e-003	1.0748e-003
tblVehicleEF	UBUS	0.06	6.5001e-003
tblVehicleEF	UBUS	2.8720e-003	3.8887e-004
tblVehicleEF	UBUS	0.04	2.8683e-003
tblVehicleEF	UBUS	0.02	0.03
tblVehicleEF	UBUS	0.78	0.05
tblVehicleEF	UBUS	0.01	3.4983e-003
tblVehicleEF	UBUS	1.6520e-003	8.5020e-005
tblVehicleEF	UBUS	5.8180e-003	1.0748e-003
tblVehicleEF	UBUS	0.06	6.5001e-003
tblVehicleEF	UBUS	2.8720e-003	3.8887e-004
tblVehicleEF	UBUS	0.71	0.01
tblVehicleEF	UBUS	0.02	0.03
tblVehicleEF	UBUS	0.85	0.05
tblVehicleEF	UBUS	0.66	7.4468e-003
tblVehicleEF	UBUS	0.05	0.01
tblVehicleEF	UBUS	3.48	0.05
tblVehicleEF	UBUS	6.59	0.73
tblVehicleEF	UBUS	1,745.74	361.34
tblVehicleEF	UBUS	150.22	8.31
tblVehicleEF	UBUS	0.80	0.10
tblVehicleEF	UBUS	11.47	0.09
tblVehicleEF	UBUS	0.48	0.04
tblVehicleEF	UBUS	0.01	3.8321e-003

tblVehicleEF	UBUS	7.2890e-003	1.1362e-003
tblVehicleEF	UBUS	1.6350e-003	1.2158e-004
tblVehicleEF	UBUS	0.20	0.02
tblVehicleEF	UBUS	3.0000e-003	9.5804e-004
tblVehicleEF	UBUS	6.9320e-003	1.0737e-003
tblVehicleEF	UBUS	1.5040e-003	1.1179e-004
tblVehicleEF	UBUS	0.01	2.5594e-003
tblVehicleEF	UBUS	0.07	8.2666e-003
tblVehicleEF	UBUS	5.5360e-003	8.2003e-004
tblVehicleEF	UBUS	0.04	2.9223e-003
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.69	0.04
tblVehicleEF	UBUS	0.01	3.4983e-003
tblVehicleEF	UBUS	1.6260e-003	8.2259e-005
tblVehicleEF	UBUS	0.01	2.5594e-003
tblVehicleEF	UBUS	0.07	8.2666e-003
tblVehicleEF	UBUS	5.5360e-003	8.2003e-004
tblVehicleEF	UBUS	0.71	0.01
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.76	0.05
tblVehicleEF	UBUS	0.66	7.4039e-003
tblVehicleEF	UBUS	0.07	0.01
tblVehicleEF	UBUS	3.47	0.05
tblVehicleEF	UBUS	10.04	1.10
tblVehicleEF	UBUS	1,745.74	361.33
tblVehicleEF	UBUS	150.22	8.94
tblVehicleEF	UBUS	0.88	0.11

tblVehicleEF	UBUS	11.65	0.10
tblVehicleEF	UBUS	0.48	0.04
tblVehicleEF	UBUS	0.01	3.8321e-003
tblVehicleEF	UBUS	7.2890e-003	1.1362e-003
tblVehicleEF	UBUS	1.6350e-003	1.2158e-004
tblVehicleEF	UBUS	0.20	0.02
tblVehicleEF	UBUS	3.0000e-003	9.5804e-004
tblVehicleEF	UBUS	6.9320e-003	1.0737e-003
tblVehicleEF	UBUS	1.5040e-003	1.1179e-004
tblVehicleEF	UBUS	2.0480e-003	3.3651e-004
tblVehicleEF	UBUS	0.06	6.3049e-003
tblVehicleEF	UBUS	1.3990e-003	1.5815e-004
tblVehicleEF	UBUS	0.04	2.8083e-003
tblVehicleEF	UBUS	0.02	0.04
tblVehicleEF	UBUS	0.89	0.05
tblVehicleEF	UBUS	0.01	3.4983e-003
tblVehicleEF	UBUS	1.6860e-003	8.8513e-005
tblVehicleEF	UBUS	2.0480e-003	3.3651e-004
tblVehicleEF	UBUS	0.06	6.3049e-003
tblVehicleEF	UBUS	1.3990e-003	1.5815e-004
tblVehicleEF	UBUS	0.71	0.01
tblVehicleEF	UBUS	0.02	0.04
tblVehicleEF	UBUS	0.97	0.06
tblVehicleTrips	CC_TTP	80.20	0.00
tblVehicleTrips	CC_TTP	78.80	0.00
tblVehicleTrips	CC_TTP	72.50	0.00
tblVehicleTrips	CC_TTP	62.00	0.00

tblVehicleTrips	CC_TTP	64.70	0.00
tblVehicleTrips	CNW_TL	6.60	78.35
tblVehicleTrips	CNW_TL	6.60	78.35
tblVehicleTrips	CNW_TL	6.60	78.35
tblVehicleTrips	CNW_TL	6.60	78.35
tblVehicleTrips	CNW_TL	6.60	78.35
tblVehicleTrips	CNW_TTP	19.00	100.00
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tblVehicleTrips	CNW_TTP	19.00	100.00
tblVehicleTrips	CNW_TTP	19.00	100.00
tblVehicleTrips	CNW_TTP	19.00	100.00
tblVehicleTrips	CW_TTP	0.80	0.00
tblVehicleTrips	CW_TTP	2.20	0.00
tblVehicleTrips	CW_TTP	8.50	0.00
tblVehicleTrips	CW_TTP	19.00	0.00
tblVehicleTrips	CW_TTP	16.30	0.00
tblVehicleTrips	DV_TP	21.00	0.00
tblVehicleTrips	DV_TP	21.00	0.00
tblVehicleTrips	DV_TP	20.00	0.00
tblVehicleTrips	DV_TP	38.00	0.00
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tblVehicleTrips	PB_TP	65.00	0.00
tblVehicleTrips	PB_TP	50.00	0.00
tblVehicleTrips	PB_TP	43.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PR_TP	14.00	100.00

tblVehicleTrips	PR_TP	29.00	100.00
tblVehicleTrips	PR_TP	37.00	100.00
tblVehicleTrips	PR_TP	58.00	100.00
tblVehicleTrips	PR_TP	54.00	100.00
tblVehicleTrips	ST_TR	1,448.33	27.90
tblVehicleTrips	ST_TR	722.03	65.91
tblVehicleTrips	ST_TR	158.37	64.73
tblVehicleTrips	ST_TR	5.63	3.47
tblVehicleTrips	ST_TR	49.97	54.17
tblVehicleTrips	SU_TR	1,182.08	27.90
tblVehicleTrips	SU_TR	542.72	65.91
tblVehicleTrips	SU_TR	131.84	64.73
tblVehicleTrips	SU_TR	5.63	3.47
tblVehicleTrips	SU_TR	25.24	54.17
tblVehicleTrips	WD_TR	845.60	27.90
tblVehicleTrips	WD_TR	496.12	65.91
tblVehicleTrips	WD_TR	127.15	64.73
tblVehicleTrips	WD_TR	5.63	3.47
tblVehicleTrips	WD_TR	42.70	54.17
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00

tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	IndoorWaterUseRate	1,722,926.85	0.00
tblWater	IndoorWaterUseRate	2,989,807.07	0.00
tblWater	IndoorWaterUseRate	3,044,443.14	0.00
tblWater	IndoorWaterUseRate	4,743,585.99	0.00
tblWater	IndoorWaterUseRate	887,388.81	0.00
tblWater	OutdoorWaterUseRate	1,055,987.42	0.00
tblWater	OutdoorWaterUseRate	190,838.75	0.00
tblWater	OutdoorWaterUseRate	194,326.16	0.00
tblWater	OutdoorWaterUseRate	527,065.11	0.00
tblWater	OutdoorWaterUseRate	543,883.46	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.6788	9.0000e-005	0.0100	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0196	0.0196	5.0000e-005	0.0000	0.0209
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	2.7839	231.0648	31.7661	0.9716	39.7719	2.5595	42.3314	10.9307	2.4488	13.3794	0.0000	93,355.4841	93,355.4841	0.2000	0.0000	93,360.4848
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.4626**	**231.0649**	**31.7762**	**0.9716**	**39.7719**	**2.5595**	**42.3315**	**10.9307**	**2.4488**	**13.3795**	**0.0000**	**93,355.5037**	**93,355.5037**	**0.2001**	**0.0000**	**93,360.5056**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.6788	9.0000e-005	0.0100	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0196	0.0196	5.0000e-005	0.0000	0.0209
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	2.7839	231.0648	31.7661	0.9716	39.7719	2.5595	42.3314	10.9307	2.4488	13.3794	0.0000	93,355.4841	93,355.4841	0.2000	0.0000	93,360.4848
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.4626**	**231.0649**	**31.7762**	**0.9716**	**39.7719**	**2.5595**	**42.3315**	**10.9307**	**2.4488**	**13.3795**	**0.0000**	**93,355.5037**	**93,355.5037**	**0.2001**	**0.0000**	**93,360.5056**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.7839	231.0648	31.7661	0.9716	39.7719	2.5595	42.3314	10.9307	2.4488	13.3794	0.0000	93,355.4841	93,355.4841	0.2000	0.0000	93,360.4848
Unmitigated	2.7839	231.0648	31.7661	0.9716	39.7719	2.5595	42.3314	10.9307	2.4488	13.3794	0.0000	93,355.4841	93,355.4841	0.2000	0.0000	93,360.4848

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Convenience Market With Gas Pumps	648.95	648.95	648.95	18,507,235	18,507,235
Fast Food Restaurant with Drive Thru	649.16	649.16	649.16	18,513,231	18,513,231
High Turnover (Sit Down Restaurant)	649.23	649.23	649.23	18,515,160	18,515,160
Motel	648.89	648.89	648.89	18,505,410	18,505,410
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	648.97	648.97	648.97	18,507,651	18,507,651
Total	3,245.21	3,245.21	3,245.21	92,548,688	92,548,688

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Convenience Market With Gas	14.70	6.60	78.35	0.00	0.00	100.00	100	0	0
Fast Food Restaurant with Drive	14.70	6.60	78.35	0.00	0.00	100.00	100	0	0
High Turnover (Sit Down	14.70	6.60	78.35	0.00	0.00	100.00	100	0	0
Motel	14.70	6.60	78.35	0.00	0.00	100.00	100	0	0
Other Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Parking Lot	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Regional Shopping Center	14.70	6.60	78.35	0.00	0.00	100.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Convenience Market With Gas Pumps	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Fast Food Restaurant with Drive Thru	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000
High Turnover (Sit Down Restaurant)	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Motel	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Other Asphalt Surfaces	0.534298	0.026091	0.159425	0.086793	0.008070	0.003341	0.010188	0.162886	0.001596	0.001199	0.004952	0.000740	0.000422
Other Non-Asphalt Surfaces	0.534298	0.026091	0.159425	0.086793	0.008070	0.003341	0.010188	0.162886	0.001596	0.001199	0.004952	0.000740	0.000422
Parking Lot	0.534298	0.026091	0.159425	0.086793	0.008070	0.003341	0.010188	0.162886	0.001596	0.001199	0.004952	0.000740	0.000422
Regional Shopping Center	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000

CalEEMod Output: Phase 2 Operation – Proposed Project (Main)

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Phase 2 Operation - Kings County, Annual

Phase 2 Operation

Kings County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	470.45	1000sqft	10.80	470,448.00	0
Refrigerated Warehouse-No Rail	186.41	1000sqft	4.28	186,415.00	0
Unrefrigerated Warehouse-No Rail	1,677.73	1000sqft	38.52	1,677,734.00	0
Other Asphalt Surfaces	73.17	Acre	73.17	3,187,069.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	37
Climate Zone	3			**Operational Year**	2040
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	135.05	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See assumptions file.

Land Use - See assumptions file.

Construction Phase -

Vehicle Trips - See assumptions file

Water And Wastewater - See assumptions file.

Solid Waste - See assumptions file.

Energy Mitigation -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblFleetMix	HHD	0.16	0.00
tblFleetMix	HHD	0.16	0.00
tblFleetMix	HHD	0.16	0.00
tblFleetMix	LDA	0.53	0.65
tblFleetMix	LDA	0.53	0.65
tblFleetMix	LDA	0.53	0.65
tblFleetMix	LDT1	0.03	0.03
tblFleetMix	LDT1	0.03	0.03
tblFleetMix	LDT1	0.03	0.03
tblFleetMix	LDT2	0.16	0.19
tblFleetMix	LDT2	0.16	0.19
tblFleetMix	LDT2	0.16	0.19
tblFleetMix	LHD1	8.0700e-003	9.8459e-003
tblFleetMix	LHD1	8.0700e-003	9.8459e-003
tblFleetMix	LHD1	8.0700e-003	9.8459e-003
tblFleetMix	LHD2	3.3410e-003	0.00
tblFleetMix	LHD2	3.3410e-003	0.00
tblFleetMix	LHD2	3.3410e-003	0.00
tblFleetMix	MCY	4.9520e-003	6.0418e-003
tblFleetMix	MCY	4.9520e-003	6.0418e-003

tblFleetMix	MCY	4.9520e-003	6.0418e-003
tblFleetMix	MDV	0.09	0.11
tblFleetMix	MDV	0.09	0.11
tblFleetMix	MDV	0.09	0.11
tblFleetMix	MH	4.2200e-004	0.00
tblFleetMix	MH	4.2200e-004	0.00
tblFleetMix	MH	4.2200e-004	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	1.5960e-003	0.00
tblFleetMix	OBUS	1.5960e-003	0.00
tblFleetMix	OBUS	1.5960e-003	0.00
tblFleetMix	SBUS	7.4000e-004	0.00
tblFleetMix	SBUS	7.4000e-004	0.00
tblFleetMix	SBUS	7.4000e-004	0.00
tblFleetMix	UBUS	1.1990e-003	0.00
tblFleetMix	UBUS	1.1990e-003	0.00
tblFleetMix	UBUS	1.1990e-003	0.00
tblLandUse	LandUseSquareFeet	470,450.00	470,448.00
tblLandUse	LandUseSquareFeet	186,410.00	186,415.00
tblLandUse	LandUseSquareFeet	1,677,730.00	1,677,734.00
tblLandUse	LandUseSquareFeet	3,187,285.20	3,187,069.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	135.05
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblSolidWaste	SolidWasteGenerationRate	583.36	710.78
tblSolidWaste	SolidWasteGenerationRate	175.23	710.78

tblSolidWaste	SolidWasteGenerationRate	1,577.07	710.78
tblVehicleEF	HHD	1.97	0.02
tblVehicleEF	HHD	4.9610e-003	1.8566e-003
tblVehicleEF	HHD	0.05	5.6716e-008
tblVehicleEF	HHD	1.87	7.63
tblVehicleEF	HHD	0.48	0.21
tblVehicleEF	HHD	0.51	1.0648e-003
tblVehicleEF	HHD	5,544.66	983.60
tblVehicleEF	HHD	1,441.47	997.36
tblVehicleEF	HHD	1.53	8.7083e-003
tblVehicleEF	HHD	15.45	6.11
tblVehicleEF	HHD	1.31	2.16
tblVehicleEF	HHD	20.67	2.23
tblVehicleEF	HHD	1.5970e-003	2.2085e-003
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	5.2930e-003	0.03
tblVehicleEF	HHD	1.9000e-005	9.7527e-008
tblVehicleEF	HHD	1.5280e-003	2.1130e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.9800e-003	8.9871e-003
tblVehicleEF	HHD	5.0640e-003	0.02
tblVehicleEF	HHD	1.7000e-005	8.9673e-008
tblVehicleEF	HHD	2.1000e-005	4.5606e-007
tblVehicleEF	HHD	6.4500e-004	1.4761e-005
tblVehicleEF	HHD	0.50	0.52
tblVehicleEF	HHD	1.1000e-005	2.4754e-007

tblVehicleEF	HHD	0.08	0.02
tblVehicleEF	HHD	4.8000e-005	7.3142e-005
tblVehicleEF	HHD	8.7480e-003	2.9274e-007
tblVehicleEF	HHD	0.05	9.2902e-003
tblVehicleEF	HHD	0.01	9.4165e-003
tblVehicleEF	HHD	2.4000e-005	8.6175e-008
tblVehicleEF	HHD	2.1000e-005	4.5606e-007
tblVehicleEF	HHD	6.4500e-004	1.4761e-005
tblVehicleEF	HHD	0.58	0.59
tblVehicleEF	HHD	1.1000e-005	2.4754e-007
tblVehicleEF	HHD	0.09	0.02
tblVehicleEF	HHD	4.8000e-005	7.3142e-005
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tblVehicleEF	HHD	15.95	5.81
tblVehicleEF	HHD	1.25	2.06
tblVehicleEF	HHD	20.67	2.23
tblVehicleEF	HHD	1.3470e-003	1.9619e-003
tblVehicleEF	HHD	0.06	0.06

tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	5.2930e-003	0.03
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tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.9800e-003	8.9871e-003
tblVehicleEF	HHD	5.0640e-003	0.02
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tblVehicleEF	HHD	4.8000e-005	1.0429e-006
tblVehicleEF	HHD	7.2600e-004	1.6375e-005
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tblVehicleEF	HHD	2.2000e-005	4.7890e-007
tblVehicleEF	HHD	0.08	0.02
tblVehicleEF	HHD	4.8000e-005	7.2398e-005
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tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	5.2930e-003	0.03
tblVehicleEF	HHD	1.9000e-005	9.7527e-008
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tblVehicleEF	HHD	8.9800e-003	8.9848e-003
tblVehicleEF	HHD	5.0640e-003	0.02
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tblVehicleEF	HHD	4.0000e-006	1.0050e-007
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tblVehicleEF	HHD	5.4000e-005	8.1269e-005
tblVehicleEF	HHD	9.3440e-003	3.1269e-007

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tblVehicleEF	HHD	0.01	3.4235e-007
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tblVehicleEF	LDA	0.35	1.39
tblVehicleEF	LDA	161.18	187.13
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tblVehicleEF	LDA	0.01	0.11
tblVehicleEF	LDA	0.04	0.04
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tblVehicleEF	LDA	1.0040e-003	7.6035e-004
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	2.0000e-003	2.0000e-003
tblVehicleEF	LDA	5.7600e-004	4.9620e-004
tblVehicleEF	LDA	9.2300e-004	6.9911e-004
tblVehicleEF	LDA	0.01	0.02

tblVehicleEF	LDA	0.03	0.04
tblVehicleEF	LDA	0.01	0.02
tblVehicleEF	LDA	3.2740e-003	1.7758e-003
tblVehicleEF	LDA	0.02	0.15
tblVehicleEF	LDA	9.2370e-003	0.07
tblVehicleEF	LDA	1.6120e-003	1.8510e-003
tblVehicleEF	LDA	3.6000e-004	3.6401e-004
tblVehicleEF	LDA	0.01	0.02
tblVehicleEF	LDA	0.03	0.04
tblVehicleEF	LDA	0.01	0.02
tblVehicleEF	LDA	4.7600e-003	2.5951e-003
tblVehicleEF	LDA	0.02	0.15
tblVehicleEF	LDA	0.01	0.07
tblVehicleEF	LDA	1.5050e-003	7.2233e-004
tblVehicleEF	LDA	5.6400e-004	0.02
tblVehicleEF	LDA	0.32	0.46
tblVehicleEF	LDA	0.29	1.18
tblVehicleEF	LDA	177.37	205.49
tblVehicleEF	LDA	35.52	36.43
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.01	0.10
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	8.0000e-003	8.0000e-003
tblVehicleEF	LDA	6.2600e-004	5.3930e-004
tblVehicleEF	LDA	1.0040e-003	7.6035e-004
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	2.0000e-003	2.0000e-003

tblVehicleEF	LDA	5.7600e-004	4.9620e-004
tblVehicleEF	LDA	9.2300e-004	6.9911e-004
tblVehicleEF	LDA	0.03	0.05
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.02	0.04
tblVehicleEF	LDA	3.7750e-003	2.0424e-003
tblVehicleEF	LDA	0.02	0.15
tblVehicleEF	LDA	7.6080e-003	0.06
tblVehicleEF	LDA	1.7750e-003	2.0327e-003
tblVehicleEF	LDA	3.5900e-004	3.6046e-004
tblVehicleEF	LDA	0.03	0.05
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.02	0.04
tblVehicleEF	LDA	5.4900e-003	2.9876e-003
tblVehicleEF	LDA	0.02	0.15
tblVehicleEF	LDA	8.3290e-003	0.06
tblVehicleEF	LDA	1.2130e-003	5.6461e-004
tblVehicleEF	LDA	8.1800e-004	0.02
tblVehicleEF	LDA	0.23	0.34
tblVehicleEF	LDA	0.44	1.71
tblVehicleEF	LDA	154.57	179.65
tblVehicleEF	LDA	35.52	37.32
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.02	0.12
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	8.0000e-003	8.0000e-003
tblVehicleEF	LDA	6.2600e-004	5.3930e-004

tblVehicleEF	LDA	1.0040e-003	7.6035e-004
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	2.0000e-003	2.0000e-003
tblVehicleEF	LDA	5.7600e-004	4.9620e-004
tblVehicleEF	LDA	9.2300e-004	6.9911e-004
tblVehicleEF	LDA	3.8090e-003	6.2897e-003
tblVehicleEF	LDA	0.03	0.04
tblVehicleEF	LDA	3.3320e-003	5.6324e-003
tblVehicleEF	LDA	3.0510e-003	1.6568e-003
tblVehicleEF	LDA	0.03	0.18
tblVehicleEF	LDA	0.01	0.08
tblVehicleEF	LDA	1.5460e-003	1.7770e-003
tblVehicleEF	LDA	3.6200e-004	3.6928e-004
tblVehicleEF	LDA	3.8090e-003	6.3984e-003
tblVehicleEF	LDA	0.03	0.04
tblVehicleEF	LDA	3.3320e-003	5.7302e-003
tblVehicleEF	LDA	4.4340e-003	2.4200e-003
tblVehicleEF	LDA	0.03	0.18
tblVehicleEF	LDA	0.01	0.09
tblVehicleEF	LDT1	1.9680e-003	7.9528e-004
tblVehicleEF	LDT1	1.3470e-003	0.02
tblVehicleEF	LDT1	0.35	0.40
tblVehicleEF	LDT1	0.53	1.51
tblVehicleEF	LDT1	206.96	223.96
tblVehicleEF	LDT1	46.36	44.97
tblVehicleEF	LDT1	0.03	0.02
tblVehicleEF	LDT1	0.03	0.13

tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	8.0000e-003	8.0000e-003
tblVehicleEF	LDT1	8.2000e-004	6.3153e-004
tblVehicleEF	LDT1	1.3150e-003	9.0211e-004
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	2.0000e-003	2.0000e-003
tblVehicleEF	LDT1	7.5400e-004	5.8070e-004
tblVehicleEF	LDT1	1.2090e-003	8.2945e-004
tblVehicleEF	LDT1	0.03	0.04
tblVehicleEF	LDT1	0.06	0.06
tblVehicleEF	LDT1	0.02	0.03
tblVehicleEF	LDT1	4.8800e-003	2.4429e-003
tblVehicleEF	LDT1	0.05	0.22
tblVehicleEF	LDT1	0.02	0.08
tblVehicleEF	LDT1	2.0710e-003	2.2162e-003
tblVehicleEF	LDT1	4.7200e-004	4.4499e-004
tblVehicleEF	LDT1	0.03	0.04
tblVehicleEF	LDT1	0.06	0.06
tblVehicleEF	LDT1	0.02	0.03
tblVehicleEF	LDT1	7.1180e-003	3.5960e-003
tblVehicleEF	LDT1	0.05	0.23
tblVehicleEF	LDT1	0.02	0.09
tblVehicleEF	LDT1	2.2680e-003	9.2848e-004
tblVehicleEF	LDT1	1.1100e-003	0.02
tblVehicleEF	LDT1	0.44	0.51
tblVehicleEF	LDT1	0.44	1.28
tblVehicleEF	LDT1	227.28	242.71

tblVehicleEF	LDT1	46.36	44.57
tblVehicleEF	LDT1	0.03	0.02
tblVehicleEF	LDT1	0.03	0.12
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	8.0000e-003	8.0000e-003
tblVehicleEF	LDT1	8.2000e-004	6.3153e-004
tblVehicleEF	LDT1	1.3150e-003	9.0211e-004
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	2.0000e-003	2.0000e-003
tblVehicleEF	LDT1	7.5400e-004	5.8070e-004
tblVehicleEF	LDT1	1.2090e-003	8.2945e-004
tblVehicleEF	LDT1	0.07	0.09
tblVehicleEF	LDT1	0.07	0.06
tblVehicleEF	LDT1	0.05	0.07
tblVehicleEF	LDT1	5.6210e-003	2.8122e-003
tblVehicleEF	LDT1	0.05	0.22
tblVehicleEF	LDT1	0.01	0.07
tblVehicleEF	LDT1	2.2760e-003	2.4018e-003
tblVehicleEF	LDT1	4.7000e-004	4.4104e-004
tblVehicleEF	LDT1	0.07	0.09
tblVehicleEF	LDT1	0.07	0.07
tblVehicleEF	LDT1	0.05	0.07
tblVehicleEF	LDT1	8.1980e-003	4.1397e-003
tblVehicleEF	LDT1	0.05	0.22
tblVehicleEF	LDT1	0.02	0.07
tblVehicleEF	LDT1	1.8340e-003	7.2906e-004
tblVehicleEF	LDT1	1.6100e-003	0.02

tblVehicleEF	LDT1	0.32	0.37
tblVehicleEF	LDT1	0.66	1.86
tblVehicleEF	LDT1	198.67	216.32
tblVehicleEF	LDT1	46.36	45.55
tblVehicleEF	LDT1	0.03	0.02
tblVehicleEF	LDT1	0.03	0.14
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	8.0000e-003	8.0000e-003
tblVehicleEF	LDT1	8.2000e-004	6.3153e-004
tblVehicleEF	LDT1	1.3150e-003	9.0211e-004
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	2.0000e-003	2.0000e-003
tblVehicleEF	LDT1	7.5400e-004	5.8070e-004
tblVehicleEF	LDT1	1.2090e-003	8.2945e-004
tblVehicleEF	LDT1	8.7450e-003	0.01
tblVehicleEF	LDT1	0.06	0.06
tblVehicleEF	LDT1	7.9200e-003	0.01
tblVehicleEF	LDT1	4.5480e-003	2.2774e-003
tblVehicleEF	LDT1	0.06	0.27
tblVehicleEF	LDT1	0.02	0.10
tblVehicleEF	LDT1	1.9880e-003	2.1406e-003
tblVehicleEF	LDT1	4.7400e-004	4.5080e-004
tblVehicleEF	LDT1	8.7450e-003	0.01
tblVehicleEF	LDT1	0.06	0.06
tblVehicleEF	LDT1	7.9200e-003	0.01
tblVehicleEF	LDT1	6.6340e-003	3.3523e-003
tblVehicleEF	LDT1	0.06	0.27

tblVehicleEF	LDT1	0.02	0.11
tblVehicleEF	LDT2	2.1460e-003	9.8952e-004
tblVehicleEF	LDT2	1.4260e-003	0.03
tblVehicleEF	LDT2	0.41	0.46
tblVehicleEF	LDT2	0.58	1.89
tblVehicleEF	LDT2	237.91	223.43
tblVehicleEF	LDT2	52.93	45.05
tblVehicleEF	LDT2	0.03	0.02
tblVehicleEF	LDT2	0.03	0.12
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	8.0000e-003	8.0000e-003
tblVehicleEF	LDT2	7.8500e-004	6.3465e-004
tblVehicleEF	LDT2	1.2300e-003	8.3153e-004
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	2.0000e-003	2.0000e-003
tblVehicleEF	LDT2	7.2200e-004	5.8503e-004
tblVehicleEF	LDT2	1.1310e-003	7.6456e-004
tblVehicleEF	LDT2	0.03	0.05
tblVehicleEF	LDT2	0.05	0.06
tblVehicleEF	LDT2	0.02	0.04
tblVehicleEF	LDT2	5.3420e-003	3.2390e-003
tblVehicleEF	LDT2	0.04	0.22
tblVehicleEF	LDT2	0.02	0.10
tblVehicleEF	LDT2	2.3810e-003	2.2102e-003
tblVehicleEF	LDT2	5.3800e-004	4.4582e-004
tblVehicleEF	LDT2	0.03	0.05
tblVehicleEF	LDT2	0.05	0.06

tblVehicleEF	LDT2	0.02	0.04
tblVehicleEF	LDT2	7.7830e-003	4.7161e-003
tblVehicleEF	LDT2	0.04	0.22
tblVehicleEF	LDT2	0.02	0.11
tblVehicleEF	LDT2	2.4720e-003	1.1546e-003
tblVehicleEF	LDT2	1.2350e-003	0.02
tblVehicleEF	LDT2	0.51	0.57
tblVehicleEF	LDT2	0.51	1.59
tblVehicleEF	LDT2	261.22	240.39
tblVehicleEF	LDT2	52.93	44.53
tblVehicleEF	LDT2	0.03	0.02
tblVehicleEF	LDT2	0.03	0.12
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	8.0000e-003	8.0000e-003
tblVehicleEF	LDT2	7.8500e-004	6.3465e-004
tblVehicleEF	LDT2	1.2300e-003	8.3153e-004
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	2.0000e-003	2.0000e-003
tblVehicleEF	LDT2	7.2200e-004	5.8503e-004
tblVehicleEF	LDT2	1.1310e-003	7.6456e-004
tblVehicleEF	LDT2	0.07	0.11
tblVehicleEF	LDT2	0.06	0.07
tblVehicleEF	LDT2	0.05	0.09
tblVehicleEF	LDT2	6.1500e-003	3.7062e-003
tblVehicleEF	LDT2	0.04	0.21
tblVehicleEF	LDT2	0.02	0.09
tblVehicleEF	LDT2	2.6150e-003	2.3780e-003

tblVehicleEF	LDT2	5.3700e-004	4.4066e-004
tblVehicleEF	LDT2	0.07	0.11
tblVehicleEF	LDT2	0.06	0.07
tblVehicleEF	LDT2	0.05	0.09
tblVehicleEF	LDT2	8.9620e-003	5.4039e-003
tblVehicleEF	LDT2	0.04	0.21
tblVehicleEF	LDT2	0.02	0.09
tblVehicleEF	LDT2	2.0000e-003	9.0742e-004
tblVehicleEF	LDT2	1.6380e-003	0.03
tblVehicleEF	LDT2	0.38	0.42
tblVehicleEF	LDT2	0.67	2.34
tblVehicleEF	LDT2	228.40	216.53
tblVehicleEF	LDT2	52.93	45.80
tblVehicleEF	LDT2	0.03	0.02
tblVehicleEF	LDT2	0.03	0.14
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	8.0000e-003	8.0000e-003
tblVehicleEF	LDT2	7.8500e-004	6.3465e-004
tblVehicleEF	LDT2	1.2300e-003	8.3153e-004
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	2.0000e-003	2.0000e-003
tblVehicleEF	LDT2	7.2200e-004	5.8503e-004
tblVehicleEF	LDT2	1.1310e-003	7.6456e-004
tblVehicleEF	LDT2	8.6770e-003	0.01
tblVehicleEF	LDT2	0.05	0.06
tblVehicleEF	LDT2	7.8710e-003	0.01
tblVehicleEF	LDT2	4.9800e-003	3.0297e-003

tblVehicleEF	LDT2	0.05	0.26
tblVehicleEF	LDT2	0.02	0.12
tblVehicleEF	LDT2	2.2860e-003	2.1418e-003
tblVehicleEF	LDT2	5.4000e-004	4.5323e-004
tblVehicleEF	LDT2	8.6770e-003	0.01
tblVehicleEF	LDT2	0.05	0.06
tblVehicleEF	LDT2	7.8710e-003	0.01
tblVehicleEF	LDT2	7.2550e-003	4.4079e-003
tblVehicleEF	LDT2	0.05	0.26
tblVehicleEF	LDT2	0.02	0.13
tblVehicleEF	LHD1	2.9730e-003	3.3260e-003
tblVehicleEF	LHD1	5.1770e-003	4.0561e-003
tblVehicleEF	LHD1	5.0910e-003	5.8772e-003
tblVehicleEF	LHD1	0.13	0.17
tblVehicleEF	LHD1	0.47	0.39
tblVehicleEF	LHD1	1.04	0.72
tblVehicleEF	LHD1	8.97	7.86
tblVehicleEF	LHD1	620.13	639.44
tblVehicleEF	LHD1	22.79	8.37
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.41	0.19
tblVehicleEF	LHD1	0.40	0.16
tblVehicleEF	LHD1	7.4600e-004	1.0351e-003
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.7050e-003	6.5038e-003
tblVehicleEF	LHD1	4.6500e-004	1.7200e-004

tblVehicleEF	LHD1	7.1400e-004	9.9033e-004
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.6340e-003	2.5061e-003
tblVehicleEF	LHD1	8.3000e-003	6.1821e-003
tblVehicleEF	LHD1	4.2700e-004	1.5815e-004
tblVehicleEF	LHD1	1.4650e-003	1.4209e-003
tblVehicleEF	LHD1	0.04	0.04
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	7.8800e-004	7.5434e-004
tblVehicleEF	LHD1	0.09	0.07
tblVehicleEF	LHD1	0.09	0.18
tblVehicleEF	LHD1	0.07	0.03
tblVehicleEF	LHD1	8.9000e-005	7.5856e-005
tblVehicleEF	LHD1	6.0470e-003	6.2260e-003
tblVehicleEF	LHD1	2.4600e-004	8.2864e-005
tblVehicleEF	LHD1	1.4650e-003	1.4209e-003
tblVehicleEF	LHD1	0.04	0.04
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	7.8800e-004	7.5434e-004
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.09	0.18
tblVehicleEF	LHD1	0.08	0.03
tblVehicleEF	LHD1	2.9730e-003	3.3353e-003
tblVehicleEF	LHD1	5.2110e-003	4.0875e-003
tblVehicleEF	LHD1	4.8090e-003	5.5716e-003
tblVehicleEF	LHD1	0.13	0.17
tblVehicleEF	LHD1	0.48	0.39

tblVehicleEF	LHD1	0.97	0.68
tblVehicleEF	LHD1	8.97	7.86
tblVehicleEF	LHD1	620.13	639.44
tblVehicleEF	LHD1	22.79	8.29
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.39	0.18
tblVehicleEF	LHD1	0.37	0.15
tblVehicleEF	LHD1	7.4600e-004	1.0351e-003
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.7050e-003	6.5038e-003
tblVehicleEF	LHD1	4.6500e-004	1.7200e-004
tblVehicleEF	LHD1	7.1400e-004	9.9033e-004
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.6340e-003	2.5061e-003
tblVehicleEF	LHD1	8.3000e-003	6.1821e-003
tblVehicleEF	LHD1	4.2700e-004	1.5815e-004
tblVehicleEF	LHD1	3.3490e-003	3.2645e-003
tblVehicleEF	LHD1	0.05	0.04
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	1.5190e-003	1.4710e-003
tblVehicleEF	LHD1	0.09	0.07
tblVehicleEF	LHD1	0.09	0.18
tblVehicleEF	LHD1	0.06	0.02
tblVehicleEF	LHD1	8.9000e-005	7.5856e-005
tblVehicleEF	LHD1	6.0470e-003	6.2261e-003
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tblVehicleEF	LHD1	3.3490e-003	3.2645e-003
tblVehicleEF	LHD1	0.05	0.04
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.5190e-003	1.4710e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.09	0.18
tblVehicleEF	LHD1	0.07	0.03
tblVehicleEF	LHD1	2.9730e-003	3.3152e-003
tblVehicleEF	LHD1	5.1390e-003	4.0200e-003
tblVehicleEF	LHD1	5.4300e-003	6.2415e-003
tblVehicleEF	LHD1	0.13	0.17
tblVehicleEF	LHD1	0.47	0.39
tblVehicleEF	LHD1	1.13	0.79
tblVehicleEF	LHD1	8.97	7.86
tblVehicleEF	LHD1	620.13	639.43
tblVehicleEF	LHD1	22.79	8.48
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.42	0.20
tblVehicleEF	LHD1	0.43	0.17
tblVehicleEF	LHD1	7.4600e-004	1.0351e-003
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.7050e-003	6.5038e-003
tblVehicleEF	LHD1	4.6500e-004	1.7200e-004
tblVehicleEF	LHD1	7.1400e-004	9.9033e-004
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.6340e-003	2.5061e-003

tblVehicleEF	LHD1	8.3000e-003	6.1821e-003
tblVehicleEF	LHD1	4.2700e-004	1.5815e-004
tblVehicleEF	LHD1	4.9900e-004	4.7508e-004
tblVehicleEF	LHD1	0.04	0.04
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	3.2200e-004	3.0395e-004
tblVehicleEF	LHD1	0.09	0.07
tblVehicleEF	LHD1	0.10	0.19
tblVehicleEF	LHD1	0.07	0.03
tblVehicleEF	LHD1	8.9000e-005	7.5856e-005
tblVehicleEF	LHD1	6.0470e-003	6.2260e-003
tblVehicleEF	LHD1	2.4800e-004	8.3934e-005
tblVehicleEF	LHD1	4.9900e-004	4.7508e-004
tblVehicleEF	LHD1	0.04	0.04
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	3.2200e-004	3.0395e-004
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.10	0.19
tblVehicleEF	LHD1	0.08	0.03
tblVehicleEF	LHD2	2.1560e-003	2.0467e-003
tblVehicleEF	LHD2	4.7160e-003	4.9567e-003
tblVehicleEF	LHD2	2.0450e-003	3.0308e-003
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.43	0.49
tblVehicleEF	LHD2	0.81	0.40
tblVehicleEF	LHD2	13.35	12.50
tblVehicleEF	LHD2	661.52	628.25

tblVehicleEF	LHD2	20.92	5.35
tblVehicleEF	LHD2	0.05	0.07
tblVehicleEF	LHD2	0.09	0.27
tblVehicleEF	LHD2	0.19	0.09
tblVehicleEF	LHD2	8.7400e-004	1.5380e-003
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	7.2360e-003	0.01
tblVehicleEF	LHD2	3.7900e-004	9.2607e-005
tblVehicleEF	LHD2	8.3600e-004	1.4715e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	2.7120e-003	2.7295e-003
tblVehicleEF	LHD2	6.8990e-003	0.01
tblVehicleEF	LHD2	3.4900e-004	8.5149e-005
tblVehicleEF	LHD2	6.4300e-004	7.3780e-004
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.4200e-004	3.9731e-004
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.03	0.09
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	1.3000e-004	1.1919e-004
tblVehicleEF	LHD2	6.4260e-003	6.0529e-003
tblVehicleEF	LHD2	2.2300e-004	5.2958e-005
tblVehicleEF	LHD2	6.4300e-004	7.3780e-004
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.01	0.02

tblVehicleEF	LHD2	3.4200e-004	3.9731e-004
tblVehicleEF	LHD2	0.10	0.11
tblVehicleEF	LHD2	0.03	0.09
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	2.1560e-003	2.0518e-003
tblVehicleEF	LHD2	4.7370e-003	4.9737e-003
tblVehicleEF	LHD2	2.0250e-003	2.8727e-003
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.43	0.49
tblVehicleEF	LHD2	0.76	0.38
tblVehicleEF	LHD2	13.35	12.50
tblVehicleEF	LHD2	661.52	628.25
tblVehicleEF	LHD2	20.92	5.31
tblVehicleEF	LHD2	0.05	0.07
tblVehicleEF	LHD2	0.09	0.26
tblVehicleEF	LHD2	0.19	0.08
tblVehicleEF	LHD2	8.7400e-004	1.5380e-003
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	7.2360e-003	0.01
tblVehicleEF	LHD2	3.7900e-004	9.2607e-005
tblVehicleEF	LHD2	8.3600e-004	1.4715e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	2.7120e-003	2.7295e-003
tblVehicleEF	LHD2	6.8990e-003	0.01
tblVehicleEF	LHD2	3.4900e-004	8.5149e-005
tblVehicleEF	LHD2	1.4820e-003	1.6910e-003

tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	6.7500e-004	7.7220e-004
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.03	0.09
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	1.3000e-004	1.1919e-004
tblVehicleEF	LHD2	6.4260e-003	6.0529e-003
tblVehicleEF	LHD2	2.2200e-004	5.2506e-005
tblVehicleEF	LHD2	1.4820e-003	1.6910e-003
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	6.7500e-004	7.7220e-004
tblVehicleEF	LHD2	0.10	0.11
tblVehicleEF	LHD2	0.03	0.09
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	2.1560e-003	2.0407e-003
tblVehicleEF	LHD2	4.6930e-003	4.9371e-003
tblVehicleEF	LHD2	2.0690e-003	3.2190e-003
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.43	0.49
tblVehicleEF	LHD2	0.89	0.44
tblVehicleEF	LHD2	13.35	12.50
tblVehicleEF	LHD2	661.52	628.25
tblVehicleEF	LHD2	20.92	5.41
tblVehicleEF	LHD2	0.05	0.07
tblVehicleEF	LHD2	0.09	0.27

tblVehicleEF	LHD2	0.19	0.10
tblVehicleEF	LHD2	8.7400e-004	1.5380e-003
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	7.2360e-003	0.01
tblVehicleEF	LHD2	3.7900e-004	9.2607e-005
tblVehicleEF	LHD2	8.3600e-004	1.4715e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	2.7120e-003	2.7295e-003
tblVehicleEF	LHD2	6.8990e-003	0.01
tblVehicleEF	LHD2	3.4900e-004	8.5149e-005
tblVehicleEF	LHD2	2.1100e-004	2.4733e-004
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	1.3600e-004	1.6052e-004
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.03	0.10
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	1.3000e-004	1.1919e-004
tblVehicleEF	LHD2	6.4260e-003	6.0529e-003
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tblVehicleEF	LHD2	2.1100e-004	2.4733e-004
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	1.3600e-004	1.6052e-004
tblVehicleEF	LHD2	0.10	0.11
tblVehicleEF	LHD2	0.03	0.10

tblVehicleEF	LHD2	0.03	0.02
tblVehicleEF	MCY	0.45	0.32
tblVehicleEF	MCY	0.15	0.24
tblVehicleEF	MCY	17.12	17.10
tblVehicleEF	MCY	10.32	9.18
tblVehicleEF	MCY	169.79	211.77
tblVehicleEF	MCY	42.14	58.18
tblVehicleEF	MCY	1.13	1.13
tblVehicleEF	MCY	0.31	0.27
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	4.0000e-003	4.0000e-003
tblVehicleEF	MCY	2.2030e-003	2.2031e-003
tblVehicleEF	MCY	3.2220e-003	2.8608e-003
tblVehicleEF	MCY	5.0400e-003	5.0400e-003
tblVehicleEF	MCY	1.0000e-003	1.0000e-003
tblVehicleEF	MCY	2.0540e-003	2.0540e-003
tblVehicleEF	MCY	3.0080e-003	2.6699e-003
tblVehicleEF	MCY	1.58	1.57
tblVehicleEF	MCY	0.83	0.83
tblVehicleEF	MCY	0.80	0.80
tblVehicleEF	MCY	2.10	2.10
tblVehicleEF	MCY	0.35	1.30
tblVehicleEF	MCY	2.05	1.82
tblVehicleEF	MCY	2.0410e-003	2.0956e-003
tblVehicleEF	MCY	6.5000e-004	5.7575e-004
tblVehicleEF	MCY	1.58	1.57
tblVehicleEF	MCY	0.83	0.83

tblVehicleEF	MCY	0.80	0.80
tblVehicleEF	MCY	2.63	2.63
tblVehicleEF	MCY	0.35	1.30
tblVehicleEF	MCY	2.23	1.98
tblVehicleEF	MCY	0.45	0.31
tblVehicleEF	MCY	0.13	0.21
tblVehicleEF	MCY	17.45	17.42
tblVehicleEF	MCY	9.10	8.06
tblVehicleEF	MCY	169.79	212.18
tblVehicleEF	MCY	42.14	55.55
tblVehicleEF	MCY	0.99	0.99
tblVehicleEF	MCY	0.29	0.25
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	4.0000e-003	4.0000e-003
tblVehicleEF	MCY	2.2030e-003	2.2031e-003
tblVehicleEF	MCY	3.2220e-003	2.8608e-003
tblVehicleEF	MCY	5.0400e-003	5.0400e-003
tblVehicleEF	MCY	1.0000e-003	1.0000e-003
tblVehicleEF	MCY	2.0540e-003	2.0540e-003
tblVehicleEF	MCY	3.0080e-003	2.6699e-003
tblVehicleEF	MCY	3.96	3.94
tblVehicleEF	MCY	1.36	1.36
tblVehicleEF	MCY	2.05	2.05
tblVehicleEF	MCY	2.07	2.07
tblVehicleEF	MCY	0.34	1.27
tblVehicleEF	MCY	1.77	1.56
tblVehicleEF	MCY	2.0450e-003	2.0996e-003

tblVehicleEF	MCY	6.2200e-004	5.4972e-004
tblVehicleEF	MCY	3.96	3.94
tblVehicleEF	MCY	1.36	1.36
tblVehicleEF	MCY	2.05	2.05
tblVehicleEF	MCY	2.60	2.59
tblVehicleEF	MCY	0.34	1.27
tblVehicleEF	MCY	1.92	1.70
tblVehicleEF	MCY	0.47	0.33
tblVehicleEF	MCY	0.18	0.29
tblVehicleEF	MCY	18.29	18.26
tblVehicleEF	MCY	12.31	11.00
tblVehicleEF	MCY	169.79	213.90
tblVehicleEF	MCY	42.14	62.27
tblVehicleEF	MCY	1.23	1.23
tblVehicleEF	MCY	0.34	0.29
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	4.0000e-003	4.0000e-003
tblVehicleEF	MCY	2.2030e-003	2.2031e-003
tblVehicleEF	MCY	3.2220e-003	2.8608e-003
tblVehicleEF	MCY	5.0400e-003	5.0400e-003
tblVehicleEF	MCY	1.0000e-003	1.0000e-003
tblVehicleEF	MCY	2.0540e-003	2.0540e-003
tblVehicleEF	MCY	3.0080e-003	2.6699e-003
tblVehicleEF	MCY	0.39	0.39
tblVehicleEF	MCY	0.78	0.77
tblVehicleEF	MCY	0.18	0.18
tblVehicleEF	MCY	2.17	2.17

tblVehicleEF	MCY	0.43	1.57
tblVehicleEF	MCY	2.45	2.18
tblVehicleEF	MCY	2.0620e-003	2.1167e-003
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tblVehicleEF	MCY	0.39	0.39
tblVehicleEF	MCY	0.78	0.77
tblVehicleEF	MCY	0.18	0.18
tblVehicleEF	MCY	2.73	2.73
tblVehicleEF	MCY	0.43	1.57
tblVehicleEF	MCY	2.67	2.37
tblVehicleEF	MDV	2.6910e-003	1.0010e-003
tblVehicleEF	MDV	3.5610e-003	0.03
tblVehicleEF	MDV	0.47	0.46
tblVehicleEF	MDV	0.94	1.96
tblVehicleEF	MDV	312.80	270.52
tblVehicleEF	MDV	70.59	54.80
tblVehicleEF	MDV	0.04	0.02
tblVehicleEF	MDV	0.07	0.14
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	8.0000e-003	8.0000e-003
tblVehicleEF	MDV	8.0700e-004	6.1893e-004
tblVehicleEF	MDV	1.3260e-003	8.7148e-004
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	2.0000e-003	2.0000e-003
tblVehicleEF	MDV	7.4300e-004	5.7036e-004
tblVehicleEF	MDV	1.2200e-003	8.0129e-004
tblVehicleEF	MDV	0.07	0.08

tblVehicleEF	MDV	0.11	0.09
tblVehicleEF	MDV	0.06	0.07
tblVehicleEF	MDV	6.7940e-003	3.3714e-003
tblVehicleEF	MDV	0.06	0.27
tblVehicleEF	MDV	0.05	0.12
tblVehicleEF	MDV	3.1260e-003	2.6732e-003
tblVehicleEF	MDV	7.2100e-004	5.4233e-004
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.11	0.09
tblVehicleEF	MDV	0.06	0.07
tblVehicleEF	MDV	9.8650e-003	4.8980e-003
tblVehicleEF	MDV	0.06	0.27
tblVehicleEF	MDV	0.05	0.13
tblVehicleEF	MDV	3.0980e-003	1.1692e-003
tblVehicleEF	MDV	2.9890e-003	0.02
tblVehicleEF	MDV	0.58	0.57
tblVehicleEF	MDV	0.81	1.64
tblVehicleEF	MDV	342.71	287.23
tblVehicleEF	MDV	70.59	54.25
tblVehicleEF	MDV	0.04	0.02
tblVehicleEF	MDV	0.07	0.13
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	8.0000e-003	8.0000e-003
tblVehicleEF	MDV	8.0700e-004	6.1893e-004
tblVehicleEF	MDV	1.3260e-003	8.7148e-004
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	2.0000e-003	2.0000e-003

tblVehicleEF	MDV	7.4300e-004	5.7036e-004
tblVehicleEF	MDV	1.2200e-003	8.0129e-004
tblVehicleEF	MDV	0.16	0.19
tblVehicleEF	MDV	0.12	0.11
tblVehicleEF	MDV	0.12	0.15
tblVehicleEF	MDV	7.8010e-003	3.8530e-003
tblVehicleEF	MDV	0.06	0.26
tblVehicleEF	MDV	0.04	0.10
tblVehicleEF	MDV	3.4270e-003	2.8385e-003
tblVehicleEF	MDV	7.1900e-004	5.3688e-004
tblVehicleEF	MDV	0.16	0.19
tblVehicleEF	MDV	0.12	0.11
tblVehicleEF	MDV	0.12	0.15
tblVehicleEF	MDV	0.01	5.6071e-003
tblVehicleEF	MDV	0.06	0.27
tblVehicleEF	MDV	0.04	0.11
tblVehicleEF	MDV	2.5080e-003	9.1733e-004
tblVehicleEF	MDV	4.1950e-003	0.03
tblVehicleEF	MDV	0.43	0.42
tblVehicleEF	MDV	1.12	2.42
tblVehicleEF	MDV	300.60	263.72
tblVehicleEF	MDV	70.59	55.59
tblVehicleEF	MDV	0.04	0.02
tblVehicleEF	MDV	0.08	0.16
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	8.0000e-003	8.0000e-003
tblVehicleEF	MDV	8.0700e-004	6.1893e-004

tblVehicleEF	MDV	1.3260e-003	8.7148e-004
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	2.0000e-003	2.0000e-003
tblVehicleEF	MDV	7.4300e-004	5.7036e-004
tblVehicleEF	MDV	1.2200e-003	8.0129e-004
tblVehicleEF	MDV	0.02	0.03
tblVehicleEF	MDV	0.10	0.09
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	6.3430e-003	3.1556e-003
tblVehicleEF	MDV	0.08	0.32
tblVehicleEF	MDV	0.06	0.14
tblVehicleEF	MDV	3.0040e-003	2.6059e-003
tblVehicleEF	MDV	7.2400e-004	5.5011e-004
tblVehicleEF	MDV	0.02	0.03
tblVehicleEF	MDV	0.10	0.09
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	9.2060e-003	4.5803e-003
tblVehicleEF	MDV	0.08	0.32
tblVehicleEF	MDV	0.06	0.16
tblVehicleEF	MH	4.8350e-003	4.1206e-003
tblVehicleEF	MH	0.01	0.00
tblVehicleEF	MH	0.22	0.28
tblVehicleEF	MH	3.10	0.00
tblVehicleEF	MH	1,172.19	871.52
tblVehicleEF	MH	55.35	0.00
tblVehicleEF	MH	0.71	2.98
tblVehicleEF	MH	0.53	0.00

tblVehicleEF	MH	0.13	0.13
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	7.9380e-003	0.04
tblVehicleEF	MH	8.6500e-004	0.00
tblVehicleEF	MH	0.06	0.06
tblVehicleEF	MH	3.2240e-003	4.0000e-003
tblVehicleEF	MH	7.5550e-003	0.04
tblVehicleEF	MH	7.9500e-004	0.00
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tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.16	0.00
tblVehicleEF	MH	0.03	0.09
tblVehicleEF	MH	3.0550e-003	0.00
tblVehicleEF	MH	0.19	0.00
tblVehicleEF	MH	0.01	8.2390e-003
tblVehicleEF	MH	6.0700e-004	0.00
tblVehicleEF	MH	0.43	0.00
tblVehicleEF	MH	0.02	0.00
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tblVehicleEF	MH	0.04	0.10
tblVehicleEF	MH	3.0550e-003	0.00
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tblVehicleEF	MH	4.9510e-003	4.1206e-003
tblVehicleEF	MH	0.01	0.00
tblVehicleEF	MH	0.23	0.28
tblVehicleEF	MH	2.81	0.00
tblVehicleEF	MH	1,172.19	871.52

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tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	7.9380e-003	0.04
tblVehicleEF	MH	8.6500e-004	0.00
tblVehicleEF	MH	0.06	0.06
tblVehicleEF	MH	3.2240e-003	4.0000e-003
tblVehicleEF	MH	7.5550e-003	0.04
tblVehicleEF	MH	7.9500e-004	0.00
tblVehicleEF	MH	1.00	0.00
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.30	0.00
tblVehicleEF	MH	0.03	0.09
tblVehicleEF	MH	3.0160e-003	0.00
tblVehicleEF	MH	0.18	0.00
tblVehicleEF	MH	0.01	8.2390e-003
tblVehicleEF	MH	6.0200e-004	0.00
tblVehicleEF	MH	1.00	0.00
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.30	0.00
tblVehicleEF	MH	0.04	0.10
tblVehicleEF	MH	3.0160e-003	0.00
tblVehicleEF	MH	0.19	0.00
tblVehicleEF	MH	4.6960e-003	4.1206e-003
tblVehicleEF	MH	0.01	0.00

tblVehicleEF	MH	0.21	0.28
tblVehicleEF	MH	3.46	0.00
tblVehicleEF	MH	1,172.19	871.52
tblVehicleEF	MH	55.35	0.00
tblVehicleEF	MH	0.73	3.03
tblVehicleEF	MH	0.57	0.00
tblVehicleEF	MH	0.13	0.13
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	7.9380e-003	0.04
tblVehicleEF	MH	8.6500e-004	0.00
tblVehicleEF	MH	0.06	0.06
tblVehicleEF	MH	3.2240e-003	4.0000e-003
tblVehicleEF	MH	7.5550e-003	0.04
tblVehicleEF	MH	7.9500e-004	0.00
tblVehicleEF	MH	0.15	0.00
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.08	0.00
tblVehicleEF	MH	0.03	0.09
tblVehicleEF	MH	3.3180e-003	0.00
tblVehicleEF	MH	0.20	0.00
tblVehicleEF	MH	0.01	8.2390e-003
tblVehicleEF	MH	6.1300e-004	0.00
tblVehicleEF	MH	0.15	0.00
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.08	0.00
tblVehicleEF	MH	0.03	0.10
tblVehicleEF	MH	3.3180e-003	0.00

tblVehicleEF	MH	0.22	0.00
tblVehicleEF	MHD	0.02	5.3118e-003
tblVehicleEF	MHD	2.4940e-003	1.0737e-003
tblVehicleEF	MHD	0.03	0.01
tblVehicleEF	MHD	0.36	0.49
tblVehicleEF	MHD	0.23	0.16
tblVehicleEF	MHD	2.80	1.03
tblVehicleEF	MHD	136.37	64.55
tblVehicleEF	MHD	1,166.86	1,003.01
tblVehicleEF	MHD	55.98	10.67
tblVehicleEF	MHD	0.35	0.33
tblVehicleEF	MHD	1.02	1.62
tblVehicleEF	MHD	10.38	1.58
tblVehicleEF	MHD	3.2000e-005	9.5673e-005
tblVehicleEF	MHD	0.13	0.13
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	2.9140e-003	8.0330e-003
tblVehicleEF	MHD	8.0400e-004	1.5213e-004
tblVehicleEF	MHD	3.1000e-005	9.1534e-005
tblVehicleEF	MHD	0.06	0.06
tblVehicleEF	MHD	3.0000e-003	3.0000e-003
tblVehicleEF	MHD	2.7800e-003	7.6762e-003
tblVehicleEF	MHD	7.3900e-004	1.3988e-004
tblVehicleEF	MHD	8.2200e-004	5.6619e-004
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	4.3900e-004	3.0311e-004

tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	0.01	0.09
tblVehicleEF	MHD	0.19	0.05
tblVehicleEF	MHD	1.3130e-003	6.1338e-004
tblVehicleEF	MHD	0.01	9.5874e-003
tblVehicleEF	MHD	6.0900e-004	1.0562e-004
tblVehicleEF	MHD	8.2200e-004	5.6619e-004
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	0.03	0.03
tblVehicleEF	MHD	4.3900e-004	3.0311e-004
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.01	0.09
tblVehicleEF	MHD	0.20	0.06
tblVehicleEF	MHD	0.02	4.9965e-003
tblVehicleEF	MHD	2.5150e-003	1.0936e-003
tblVehicleEF	MHD	0.03	0.01
tblVehicleEF	MHD	0.25	0.41
tblVehicleEF	MHD	0.23	0.16
tblVehicleEF	MHD	2.60	0.95
tblVehicleEF	MHD	144.59	64.17
tblVehicleEF	MHD	1,166.86	1,003.01
tblVehicleEF	MHD	55.98	10.55
tblVehicleEF	MHD	0.36	0.31
tblVehicleEF	MHD	0.97	1.54
tblVehicleEF	MHD	10.36	1.57
tblVehicleEF	MHD	2.7000e-005	8.4129e-005
tblVehicleEF	MHD	0.13	0.13

tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	2.9140e-003	8.0330e-003
tblVehicleEF	MHD	8.0400e-004	1.5213e-004
tblVehicleEF	MHD	2.6000e-005	8.0490e-005
tblVehicleEF	MHD	0.06	0.06
tblVehicleEF	MHD	3.0000e-003	3.0000e-003
tblVehicleEF	MHD	2.7800e-003	7.6762e-003
tblVehicleEF	MHD	7.3900e-004	1.3988e-004
tblVehicleEF	MHD	1.8900e-003	1.3020e-003
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	8.6300e-004	5.9442e-004
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	0.01	0.09
tblVehicleEF	MHD	0.18	0.05
tblVehicleEF	MHD	1.3900e-003	6.0990e-004
tblVehicleEF	MHD	0.01	9.5874e-003
tblVehicleEF	MHD	6.0500e-004	1.0437e-004
tblVehicleEF	MHD	1.8900e-003	1.3020e-003
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	0.03	0.03
tblVehicleEF	MHD	8.6300e-004	5.9442e-004
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.01	0.09
tblVehicleEF	MHD	0.19	0.05
tblVehicleEF	MHD	0.02	5.6137e-003
tblVehicleEF	MHD	2.4700e-003	1.0505e-003

tblVehicleEF	MHD	0.03	0.01
tblVehicleEF	MHD	0.47	0.58
tblVehicleEF	MHD	0.23	0.16
tblVehicleEF	MHD	3.06	1.13
tblVehicleEF	MHD	125.34	65.23
tblVehicleEF	MHD	1,166.86	1,003.01
tblVehicleEF	MHD	55.98	10.84
tblVehicleEF	MHD	0.33	0.35
tblVehicleEF	MHD	1.04	1.65
tblVehicleEF	MHD	10.41	1.59
tblVehicleEF	MHD	4.0000e-005	1.1161e-004
tblVehicleEF	MHD	0.13	0.13
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	2.9140e-003	8.0330e-003
tblVehicleEF	MHD	8.0400e-004	1.5213e-004
tblVehicleEF	MHD	3.8000e-005	1.0679e-004
tblVehicleEF	MHD	0.06	0.06
tblVehicleEF	MHD	3.0000e-003	3.0000e-003
tblVehicleEF	MHD	2.7800e-003	7.6762e-003
tblVehicleEF	MHD	7.3900e-004	1.3988e-004
tblVehicleEF	MHD	2.7200e-004	1.8747e-004
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	1.7600e-004	1.2119e-004
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	0.01	0.10
tblVehicleEF	MHD	0.20	0.06

tblVehicleEF	MHD	1.2090e-003	6.1958e-004
tblVehicleEF	MHD	0.01	9.5873e-003
tblVehicleEF	MHD	6.1300e-004	1.0729e-004
tblVehicleEF	MHD	2.7200e-004	1.8747e-004
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	0.04	0.03
tblVehicleEF	MHD	1.7600e-004	1.2119e-004
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.01	0.10
tblVehicleEF	MHD	0.22	0.06
tblVehicleEF	OBUS	0.01	8.6013e-003
tblVehicleEF	OBUS	4.0480e-003	3.0621e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.25	0.61
tblVehicleEF	OBUS	0.28	0.31
tblVehicleEF	OBUS	3.96	2.05
tblVehicleEF	OBUS	100.64	74.57
tblVehicleEF	OBUS	1,266.39	1,211.12
tblVehicleEF	OBUS	65.40	16.70
tblVehicleEF	OBUS	0.22	0.34
tblVehicleEF	OBUS	0.71	1.05
tblVehicleEF	OBUS	2.42	0.81
tblVehicleEF	OBUS	2.0000e-005	1.1667e-004
tblVehicleEF	OBUS	0.13	0.13
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	2.5790e-003	6.9126e-003
tblVehicleEF	OBUS	1.0250e-003	2.1376e-004

tblVehicleEF	OBUS	1.9000e-005	1.1162e-004
tblVehicleEF	OBUS	0.06	0.06
tblVehicleEF	OBUS	3.0000e-003	3.0000e-003
tblVehicleEF	OBUS	2.4400e-003	6.5884e-003
tblVehicleEF	OBUS	9.4300e-004	1.9654e-004
tblVehicleEF	OBUS	1.9400e-003	2.5600e-003
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.03	0.05
tblVehicleEF	OBUS	7.1300e-004	9.5148e-004
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.04	0.31
tblVehicleEF	OBUS	0.26	0.10
tblVehicleEF	OBUS	9.7200e-004	7.0994e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.2400e-004	1.6524e-004
tblVehicleEF	OBUS	1.9400e-003	2.5600e-003
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.05	0.07
tblVehicleEF	OBUS	7.1300e-004	9.5148e-004
tblVehicleEF	OBUS	0.04	0.02
tblVehicleEF	OBUS	0.04	0.31
tblVehicleEF	OBUS	0.28	0.11
tblVehicleEF	OBUS	0.01	8.7013e-003
tblVehicleEF	OBUS	4.1280e-003	3.1499e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.24	0.61
tblVehicleEF	OBUS	0.28	0.32

tblVehicleEF	OBUS	3.60	1.86
tblVehicleEF	OBUS	105.67	73.73
tblVehicleEF	OBUS	1,266.39	1,211.13
tblVehicleEF	OBUS	65.40	16.38
tblVehicleEF	OBUS	0.23	0.33
tblVehicleEF	OBUS	0.67	1.00
tblVehicleEF	OBUS	2.38	0.79
tblVehicleEF	OBUS	1.7000e-005	1.0367e-004
tblVehicleEF	OBUS	0.13	0.13
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	2.5790e-003	6.9126e-003
tblVehicleEF	OBUS	1.0250e-003	2.1376e-004
tblVehicleEF	OBUS	1.6000e-005	9.9183e-005
tblVehicleEF	OBUS	0.06	0.06
tblVehicleEF	OBUS	3.0000e-003	3.0000e-003
tblVehicleEF	OBUS	2.4400e-003	6.5884e-003
tblVehicleEF	OBUS	9.4300e-004	1.9654e-004
tblVehicleEF	OBUS	4.4900e-003	5.8822e-003
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.03	0.05
tblVehicleEF	OBUS	1.3520e-003	1.7625e-003
tblVehicleEF	OBUS	0.04	0.02
tblVehicleEF	OBUS	0.04	0.31
tblVehicleEF	OBUS	0.24	0.09
tblVehicleEF	OBUS	1.0200e-003	7.0200e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.1700e-004	1.6209e-004

tblVehicleEF	OBUS	4.4900e-003	5.8822e-003
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.05	0.07
tblVehicleEF	OBUS	1.3520e-003	1.7625e-003
tblVehicleEF	OBUS	0.04	0.03
tblVehicleEF	OBUS	0.04	0.31
tblVehicleEF	OBUS	0.27	0.10
tblVehicleEF	OBUS	0.01	8.4707e-003
tblVehicleEF	OBUS	3.9530e-003	2.9584e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.26	0.62
tblVehicleEF	OBUS	0.27	0.31
tblVehicleEF	OBUS	4.43	2.29
tblVehicleEF	OBUS	93.70	75.74
tblVehicleEF	OBUS	1,266.39	1,211.10
tblVehicleEF	OBUS	65.40	17.11
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tblVehicleEF	OBUS	0.72	1.08
tblVehicleEF	OBUS	2.47	0.83
tblVehicleEF	OBUS	2.5000e-005	1.3462e-004
tblVehicleEF	OBUS	0.13	0.13
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	2.5790e-003	6.9126e-003
tblVehicleEF	OBUS	1.0250e-003	2.1376e-004
tblVehicleEF	OBUS	2.4000e-005	1.2880e-004
tblVehicleEF	OBUS	0.06	0.06
tblVehicleEF	OBUS	3.0000e-003	3.0000e-003

tblVehicleEF	OBUS	2.4400e-003	6.5884e-003
tblVehicleEF	OBUS	9.4300e-004	1.9654e-004
tblVehicleEF	OBUS	6.6000e-004	9.0272e-004
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.03	0.05
tblVehicleEF	OBUS	3.4400e-004	4.7058e-004
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.04	0.34
tblVehicleEF	OBUS	0.28	0.11
tblVehicleEF	OBUS	9.0600e-004	7.2091e-004
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tblVehicleEF	OBUS	7.3200e-004	1.6929e-004
tblVehicleEF	OBUS	6.6000e-004	9.0272e-004
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.05	0.07
tblVehicleEF	OBUS	3.4400e-004	4.7058e-004
tblVehicleEF	OBUS	0.04	0.02
tblVehicleEF	OBUS	0.04	0.34
tblVehicleEF	OBUS	0.31	0.12
tblVehicleEF	SBUS	0.84	0.05
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tblVehicleEF	SBUS	0.05	4.5111e-003
tblVehicleEF	SBUS	5.97	2.59
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tblVehicleEF	SBUS	1,120.62	278.79
tblVehicleEF	SBUS	1,048.88	830.93

tblVehicleEF	SBUS	40.31	3.36
tblVehicleEF	SBUS	2.64	1.41
tblVehicleEF	SBUS	0.98	1.26
tblVehicleEF	SBUS	14.09	1.86
tblVehicleEF	SBUS	2.0500e-004	4.4050e-004
tblVehicleEF	SBUS	0.74	0.74
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.7750e-003	8.2137e-003
tblVehicleEF	SBUS	8.7800e-004	6.2246e-005
tblVehicleEF	SBUS	1.9600e-004	4.2144e-004
tblVehicleEF	SBUS	0.32	0.32
tblVehicleEF	SBUS	2.6870e-003	2.6995e-003
tblVehicleEF	SBUS	2.6360e-003	7.8403e-003
tblVehicleEF	SBUS	8.0800e-004	5.7233e-005
tblVehicleEF	SBUS	3.8890e-003	9.3056e-004
tblVehicleEF	SBUS	0.02	5.4472e-003
tblVehicleEF	SBUS	0.73	0.25
tblVehicleEF	SBUS	1.4430e-003	3.4440e-004
tblVehicleEF	SBUS	0.04	0.02
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tblVehicleEF	SBUS	0.01	2.6542e-003
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tblVehicleEF	SBUS	4.7800e-004	3.3265e-005
tblVehicleEF	SBUS	3.8890e-003	9.3056e-004
tblVehicleEF	SBUS	0.02	5.4472e-003
tblVehicleEF	SBUS	1.05	0.35

tblVehicleEF	SBUS	1.4430e-003	3.4440e-004
tblVehicleEF	SBUS	0.05	0.02
tblVehicleEF	SBUS	0.01	0.04
tblVehicleEF	SBUS	0.26	0.03
tblVehicleEF	SBUS	0.84	0.05
tblVehicleEF	SBUS	3.4430e-003	1.5538e-003
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tblVehicleEF	SBUS	2.86	0.39
tblVehicleEF	SBUS	1,175.39	276.88
tblVehicleEF	SBUS	1,048.88	830.93
tblVehicleEF	SBUS	40.31	3.03
tblVehicleEF	SBUS	2.72	1.36
tblVehicleEF	SBUS	0.93	1.20
tblVehicleEF	SBUS	14.07	1.86
tblVehicleEF	SBUS	1.7300e-004	3.8496e-004
tblVehicleEF	SBUS	0.74	0.74
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.7750e-003	8.2137e-003
tblVehicleEF	SBUS	8.7800e-004	6.2246e-005
tblVehicleEF	SBUS	1.6500e-004	3.6831e-004
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tblVehicleEF	SBUS	2.6870e-003	2.6995e-003
tblVehicleEF	SBUS	2.6360e-003	7.8403e-003
tblVehicleEF	SBUS	8.0800e-004	5.7233e-005
tblVehicleEF	SBUS	8.9670e-003	2.1479e-003

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tblVehicleEF	SBUS	8.9670e-003	2.1479e-003
tblVehicleEF	SBUS	0.02	5.7561e-003
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tblVehicleEF	SBUS	2.7070e-003	6.4833e-004
tblVehicleEF	SBUS	0.05	0.02
tblVehicleEF	SBUS	9.7640e-003	0.03
tblVehicleEF	SBUS	0.21	0.02
tblVehicleEF	SBUS	0.84	0.05
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tblVehicleEF	SBUS	6.05	0.83
tblVehicleEF	SBUS	1,045.00	281.43
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tblVehicleEF	SBUS	40.31	3.76
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tblVehicleEF	SBUS	2.4900e-004	5.1719e-004
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tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.7750e-003	8.2137e-003
tblVehicleEF	SBUS	8.7800e-004	6.2246e-005
tblVehicleEF	SBUS	2.3900e-004	4.9481e-004
tblVehicleEF	SBUS	0.32	0.32
tblVehicleEF	SBUS	2.6870e-003	2.6995e-003
tblVehicleEF	SBUS	2.6360e-003	7.8403e-003
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tblVehicleEF	SBUS	0.02	5.3990e-003
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tblVehicleEF	SBUS	0.29	0.03
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tblVehicleEF	SBUS	5.0700e-004	3.7172e-005
tblVehicleEF	SBUS	1.3400e-003	3.1921e-004
tblVehicleEF	SBUS	0.02	5.3990e-003
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tblVehicleEF	SBUS	7.0400e-004	1.6744e-004
tblVehicleEF	SBUS	0.05	0.02
tblVehicleEF	SBUS	0.01	0.05

tblVehicleEF	SBUS	0.31	0.03
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tblVehicleEF	UBUS	0.01	3.8321e-003
tblVehicleEF	UBUS	7.2890e-003	1.1362e-003
tblVehicleEF	UBUS	1.6350e-003	1.2158e-004
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tblVehicleEF	UBUS	3.0000e-003	9.5804e-004
tblVehicleEF	UBUS	6.9320e-003	1.0737e-003
tblVehicleEF	UBUS	1.5040e-003	1.1179e-004
tblVehicleEF	UBUS	5.8180e-003	1.0748e-003
tblVehicleEF	UBUS	0.06	6.5001e-003
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tblVehicleEF	UBUS	5.8180e-003	1.0748e-003
tblVehicleEF	UBUS	0.06	6.5001e-003

tblVehicleEF	UBUS	2.8720e-003	3.8887e-004
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tblVehicleEF	UBUS	0.01	3.8321e-003
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tblVehicleEF	UBUS	1.6350e-003	1.2158e-004
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tblVehicleEF	UBUS	3.0000e-003	9.5804e-004
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tblVehicleEF	UBUS	0.01	2.5594e-003
tblVehicleEF	UBUS	0.07	8.2666e-003
tblVehicleEF	UBUS	5.5360e-003	8.2003e-004
tblVehicleEF	UBUS	0.04	2.9223e-003
tblVehicleEF	UBUS	0.01	0.03
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tblVehicleEF	UBUS	1.6260e-003	8.2259e-005
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tblVehicleEF	UBUS	0.48	0.04
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tblVehicleEF	UBUS	1.3990e-003	1.5815e-004
tblVehicleEF	UBUS	0.04	2.8083e-003

tblVehicleEF	UBUS	0.02	0.04
tblVehicleEF	UBUS	0.89	0.05
tblVehicleEF	UBUS	0.01	3.4983e-003
tblVehicleEF	UBUS	1.6860e-003	8.8513e-005
tblVehicleEF	UBUS	2.0480e-003	3.3651e-004
tblVehicleEF	UBUS	0.06	6.3049e-003
tblVehicleEF	UBUS	1.3990e-003	1.5815e-004
tblVehicleEF	UBUS	0.71	0.01
tblVehicleEF	UBUS	0.02	0.04
tblVehicleEF	UBUS	0.97	0.06
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CNW_TTP	41.00	0.00
tblVehicleTrips	CW_TL	14.70	1.38
tblVehicleTrips	CW_TL	14.70	1.38
tblVehicleTrips	CW_TL	14.70	1.38
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00

tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.32	2.48
tblVehicleTrips	ST_TR	1.68	6.26
tblVehicleTrips	ST_TR	1.68	0.70
tblVehicleTrips	SU_TR	0.68	2.48
tblVehicleTrips	SU_TR	1.68	6.26
tblVehicleTrips	SU_TR	1.68	0.70
tblVehicleTrips	WD_TR	6.97	2.48
tblVehicleTrips	WD_TR	1.68	6.26
tblVehicleTrips	WD_TR	1.68	0.70
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	IndoorWaterUseRate	108,791,562.50	3,694,773.00
tblWater	IndoorWaterUseRate	43,107,312.50	3,694,773.00
tblWater	IndoorWaterUseRate	387,975,062.50	3,694,773.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	11.0154	2.0000e-004	0.0220	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0430	0.0430	1.1000e-004	0.0000	0.0458
Energy	0.2167	1.9696	1.6545	0.0118		0.1497	0.1497		0.1497	0.1497	0.0000	3,647.8224	3,647.8224	0.3640	0.1061	3,688.5444
Mobile	0.5994	0.2169	3.2008	4.5600e-003	0.6542	2.3700e-003	0.6565	0.1738	2.1900e-003	0.1760	0.0000	418.5527	418.5527	0.0334	0.0000	419.3871
Waste						0.0000	0.0000		0.0000	0.0000	432.8458	0.0000	432.8458	25.5805	0.0000	1,072.3570
Water						0.0000	0.0000		0.0000	0.0000	3.9217	3.6741	7.5957	0.0143	8.6900e-003	10.5430
Total	**11.8314**	**2.1866**	**4.8772**	**0.0164**	**0.6542**	**0.1521**	**0.8063**	**0.1738**	**0.1520**	**0.3257**	**436.7674**	**4,070.0921**	**4,506.8595**	**25.9922**	**0.1148**	**5,190.8772**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	11.0154	2.0000e-004	0.0220	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0430	0.0430	1.1000e-004	0.0000	0.0458
Energy	0.1574	1.4312	1.2022	8.5900e-003		0.1088	0.1088		0.1088	0.1088	0.0000	3,011.0827	3,011.0827	0.3419	0.0931	3,047.3797
Mobile	0.5994	0.2169	3.2008	4.5600e-003	0.6542	2.3700e-003	0.6565	0.1738	2.1900e-003	0.1760	0.0000	418.5527	418.5527	0.0334	0.0000	419.3871
Waste						0.0000	0.0000		0.0000	0.0000	432.8458	0.0000	432.8458	25.5805	0.0000	1,072.3570
Water						0.0000	0.0000		0.0000	0.0000	3.1373	2.9393	6.0766	0.0114	6.9500e-003	8.4344
Total	**11.7722**	**1.6482**	**4.4250**	**0.0132**	**0.6542**	**0.1112**	**0.7654**	**0.1738**	**0.1110**	**0.2848**	**435.9831**	**3,432.6176**	**3,868.6007**	**25.9673**	**0.1001**	**4,547.6040**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.50**	**24.62**	**9.27**	**19.72**	**0.00**	**26.90**	**5.08**	**0.00**	**26.93**	**12.56**	**0.18**	**15.66**	**14.16**	**0.10**	**12.83**	**12.39**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5994	0.2169	3.2008	4.5600e-003	0.6542	2.3700e-003	0.6565	0.1738	2.1900e-003	0.1760	0.0000	418.5527	418.5527	0.0334	0.0000	419.3871
Unmitigated	0.5994	0.2169	3.2008	4.5600e-003	0.6542	2.3700e-003	0.6565	0.1738	2.1900e-003	0.1760	0.0000	418.5527	418.5527	0.0334	0.0000	419.3871

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	1,167.75	1,167.75	1167.75	586,585	586,585
Other Asphalt Surfaces	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	1,167.73	1,167.73	1167.73	586,573	586,573
Unrefrigerated Warehouse-No Rail	1,167.70	1,167.70	1167.70	586,559	586,559
Total	3,503.18	3,503.18	3,503.18	1,759,717	1,759,717

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	1.38	6.60	6.60	100.00	0.00	0.00	100	0	0
Other Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No Rail	1.38	6.60	6.60	100.00	0.00	0.00	100	0	0
Unrefrigerated Warehouse-No Rail	1.38	6.60	6.60	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.651878	0.031833	0.194509	0.105893	0.009846	0.000000	0.000000	0.000000	0.000000	0.000000	0.006042	0.000000	0.000000
Other Asphalt Surfaces	0.534298	0.026091	0.159425	0.086793	0.008070	0.003341	0.010188	0.162886	0.001596	0.001199	0.004952	0.000740	0.000422
Refrigerated Warehouse-No Rail	0.651878	0.031833	0.194509	0.105893	0.009846	0.000000	0.000000	0.000000	0.000000	0.000000	0.006042	0.000000	0.000000
Unrefrigerated Warehouse-No Rail	0.651878	0.031833	0.194509	0.105893	0.009846	0.000000	0.000000	0.000000	0.000000	0.000000	0.006042	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,453.0627	1,453.0627	0.3120	0.0646	1,480.1012
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,503.6836	1,503.6836	0.3229	0.0668	1,531.6641
NaturalGas Mitigated	0.1574	1.4312	1.2022	8.5900e-003		0.1088	0.1088		0.1088	0.1088	0.0000	1,558.0200	1,558.0200	0.0299	0.0286	1,567.2785
NaturalGas Unmitigated	0.2167	1.9696	1.6545	0.0118		0.1497	0.1497		0.1497	0.1497	0.0000	2,144.1388	2,144.1388	0.0411	0.0393	2,156.8803

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	9.81825e+006	0.0529	0.4813	0.4043	2.8900e-003		0.0366	0.0366		0.0366	0.0366	0.0000	523.9392	523.9392	0.0100	9.6100e-003	527.0527
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	27962.3	1.5000e-004	1.3700e-003	1.1500e-003	1.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	1.4922	1.4922	3.0000e-005	3.0000e-005	1.5010
Unrefrigerated Warehouse-No Rail	3.03334e+007	0.1636	1.4869	1.2490	8.9200e-003		0.1130	0.1130		0.1130	0.1130	0.0000	1,618.7074	1,618.7074	0.0310	0.0297	1,628.3266
Total		**0.2167**	**1.9696**	**1.6545**	**0.0118**		**0.1497**	**0.1497**		**0.1497**	**0.1497**	**0.0000**	**2,144.1388**	**2,144.1388**	**0.0411**	**0.0393**	**2,156.8803**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	7.41473e+006	0.0400	0.3635	0.3053	2.1800e-003		0.0276	0.0276		0.0276	0.0276	0.0000	395.6783	395.6783	7.5800e-003	7.2500e-003	398.0296
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	19573.6	1.1000e-004	9.6000e-004	8.1000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	1.0445	1.0445	2.0000e-005	2.0000e-005	1.0507
Unrefrigerated Warehouse-No Rail	2.17619e+007	0.1173	1.0668	0.8961	6.4000e-003		0.0811	0.0811		0.0811	0.0811	0.0000	1,161.2972	1,161.2972	0.0223	0.0213	1,168.1982
Total		**0.1574**	**1.4312**	**1.2022**	**8.5900e-003**		**0.1088**	**0.1088**		**0.1088**	**0.1088**	**0.0000**	**1,558.0200**	**1,558.0200**	**0.0299**	**0.0286**	**1,567.2785**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	4.14935e+006	254.1795	0.0546	0.0113	258.9093
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	4.6436e+006	284.4559	0.0611	0.0126	289.7490
Unrefrigerated Warehouse-No Rail	1.57539e+007	965.0483	0.2072	0.0429	983.0058
Total		**1,503.6836**	**0.3229**	**0.0668**	**1,531.6641**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	3.87273e+006	237.2342	0.0509	0.0105	241.6487
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	4.61731e+006	282.8458	0.0607	0.0126	288.1089
Unrefrigerated Warehouse-No Rail	1.52305e+007	932.9828	0.2003	0.0415	950.3436
Total		**1,453.0627**	**0.3120**	**0.0646**	**1,480.1012**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	11.0154	2.0000e-004	0.0220	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0430	0.0430	1.1000e-004	0.0000	0.0458
Unmitigated	11.0154	2.0000e-004	0.0220	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0430	0.0430	1.1000e-004	0.0000	0.0458

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.6896					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	9.3238					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0100e-003	2.0000e-004	0.0220	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0430	0.0430	1.1000e-004	0.0000	0.0458
Total	**11.0154**	**2.0000e-004**	**0.0220**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**	**0.0000**	**0.0430**	**0.0430**	**1.1000e-004**	**0.0000**	**0.0458**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.6896					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	9.3238					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0100e-003	2.0000e-004	0.0220	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0430	0.0430	1.1000e-004	0.0000	0.0458
Total	**11.0154**	**2.0000e-004**	**0.0220**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**	**0.0000**	**0.0430**	**0.0430**	**1.1000e-004**	**0.0000**	**0.0458**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	6.0766	0.0114	6.9500e-003	8.4344
Unmitigated	7.5957	0.0143	8.6900e-003	10.5430

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	3.69477 / 0	2.5319	4.7600e-003	2.9000e-003	3.5143
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	3.69477 / 0	2.5319	4.7600e-003	2.9000e-003	3.5143
Unrefrigerated Warehouse-No Rail	3.69477 / 0	2.5319	4.7600e-003	2.9000e-003	3.5143
Total		**7.5957**	**0.0143**	**8.7000e-003**	**10.5430**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	2.95582 / 0	2.0255	3.8100e-003	2.3200e-003	2.8115
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	2.95582 / 0	2.0255	3.8100e-003	2.3200e-003	2.8115
Unrefrigerated Warehouse-No Rail	2.95582 / 0	2.0255	3.8100e-003	2.3200e-003	2.8115
Total		**6.0766**	**0.0114**	**6.9600e-003**	**8.4344**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	432.8458	25.5805	0.0000	1,072.3570
Unmitigated	432.8458	25.5805	0.0000	1,072.3570

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	710.78	144.2819	8.5268	0.0000	357.4523
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	710.78	144.2819	8.5268	0.0000	357.4523
Unrefrigerated Warehouse-No Rail	710.78	144.2819	8.5268	0.0000	357.4523
Total		**432.8458**	**25.5805**	**0.0000**	**1,072.3570**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	710.78	144.2819	8.5268	0.0000	357.4523
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	710.78	144.2819	8.5268	0.0000	357.4523
Unrefrigerated Warehouse-No Rail	710.78	144.2819	8.5268	0.0000	357.4523
Total		**432.8458**	**25.5805**	**0.0000**	**1,072.3570**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Phase 2 Operation

Kings County, Mitigation Report

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.37	3.37	3.37	3.37	3.37
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	27.33	27.34	27.34	27.33	27.34	27.34	0.00	27.34	27.34	27.35	27.37	27.34
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.01	20.02	20.00
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value 3
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	0.11	0.33		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			
No	Land Use	Increase Transit Accessibility	0.25			

No	Land Use	Integrate Below Market Rate Housing	0.00			
	Land Use	Land Use SubTotal	0.00			
No	Neighborhood Enhancements	Improve Pedestrian Network				
No	Neighborhood Enhancements	Provide Traffic Calming Measures				
No	Neighborhood Enhancements	Implement NEV Network	0.00			
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00			
No	Parking Policy Pricing	Limit Parking Supply	0.00			
No	Parking Policy Pricing	Unbundle Parking Costs	0.00			
No	Parking Policy Pricing	On-street Market Pricing	0.00			
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00			
No	Transit Improvements	Provide BRT System	0.00			
No	Transit Improvements	Expand Transit Network	0.00			
No	Transit Improvements	Increase Transit Frequency	0.00			
	Transit Improvements	Transit Improvements Subtotal	0.00			
		Land Use and Site Enhancement Subtotal	0.00			
No	Commute	Implement Trip Reduction Program				
No	Commute	Transit Subsidy				
No	Commute	Implement Employee Parking "Cash Out"				
No	Commute	Workplace Parking Charge				
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00			
No	Commute	Market Commute Trip Reduction Option	0.00			
No	Commute	Employee Vanpool/Shuttle	0.00		2.00	
No	Commute	Provide Ride Sharing Program				
	Commute	Commute Subtotal	0.00			
No	School Trip	Implement School Bus Program	0.00			
		Total VMT Reduction	0.00			

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
No	Use Low VOC Paint (Residential Interior)	150.00
No	Use Low VOC Paint (Residential Exterior)	150.00
No	Use Low VOC Paint (Non-residential Interior)	150.00
No	Use Low VOC Paint (Non-residential Exterior)	150.00
No	Use Low VOC Paint (Parking)	150.00
No	% Electric Lawnmower	
No	% Electric Leafblower	
No	% Electric Chainsaw	

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
Yes	Exceed Title 24	30.00	
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy	0.00	0.00
No	Use Reclaimed Water	0.00	0.00
No	Use Grey Water	0.00	
Yes	Install low-flow bathroom faucet	32.00	
Yes	Install low-flow Kitchen faucet	18.00	
Yes	Install low-flow Toilet	20.00	
Yes	Install low-flow Shower	20.00	
No	Turf Reduction	0.00	
Yes	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape	0.00	0.00

Solid Waste Mitigation

Mitigation Measures	Input Value
Institute Recycling and Composting Services Percent Reduction in Waste Disposed	

CalEEMod Output: Phase 2 Operation – Proposed Project (Trucks)

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Phase 2 Operation: Trucks

Kings County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	470.45	1000sqft	10.80	470,448.00	0
Refrigerated Warehouse-No Rail	186.41	1000sqft	4.28	186,415.00	0
Unrefrigerated Warehouse-No Rail	1,677.73	1000sqft	38.52	1,677,734.00	0
Other Asphalt Surfaces	73.17	Acre	73.17	3,187,069.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	37
Climate Zone	3			**Operational Year**	2040
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	135.05	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See assumptions file.

Land Use - See assumptions file.

Construction Phase -

Vehicle Trips - See assumptions file

Water And Wastewater - Mobile emissions only

Solid Waste - Mobile emissions only.

Energy Mitigation -

Water Mitigation -

Area Coating - Mobile emissions only

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	1167297	0
tblAreaCoating	Area_Nonresidential_Interior	3501890	0
tblAreaCoating	Area_Parking	191224	0
tblFleetMix	HHD	0.16	1.00
tblFleetMix	HHD	0.16	1.00
tblFleetMix	HHD	0.16	1.00
tblFleetMix	LDA	0.53	0.00
tblFleetMix	LDA	0.53	0.00
tblFleetMix	LDA	0.53	0.00
tblFleetMix	LDT1	0.03	0.00
tblFleetMix	LDT1	0.03	0.00
tblFleetMix	LDT1	0.03	0.00
tblFleetMix	LDT2	0.16	0.00
tblFleetMix	LDT2	0.16	0.00
tblFleetMix	LDT2	0.16	0.00
tblFleetMix	LHD1	8.0700e-003	0.00
tblFleetMix	LHD1	8.0700e-003	0.00
tblFleetMix	LHD1	8.0700e-003	0.00
tblFleetMix	LHD2	3.3410e-003	0.00

tblFleetMix	LHD2	3.3410e-003	0.00
tblFleetMix	LHD2	3.3410e-003	0.00
tblFleetMix	MCY	4.9520e-003	0.00
tblFleetMix	MCY	4.9520e-003	0.00
tblFleetMix	MCY	4.9520e-003	0.00
tblFleetMix	MDV	0.09	0.00
tblFleetMix	MDV	0.09	0.00
tblFleetMix	MDV	0.09	0.00
tblFleetMix	MH	4.2200e-004	0.00
tblFleetMix	MH	4.2200e-004	0.00
tblFleetMix	MH	4.2200e-004	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	1.5960e-003	0.00
tblFleetMix	OBUS	1.5960e-003	0.00
tblFleetMix	OBUS	1.5960e-003	0.00
tblFleetMix	SBUS	7.4000e-004	0.00
tblFleetMix	SBUS	7.4000e-004	0.00
tblFleetMix	SBUS	7.4000e-004	0.00
tblFleetMix	UBUS	1.1990e-003	0.00
tblFleetMix	UBUS	1.1990e-003	0.00
tblFleetMix	UBUS	1.1990e-003	0.00
tblLandUse	LandUseSquareFeet	470,450.00	470,448.00
tblLandUse	LandUseSquareFeet	186,410.00	186,415.00
tblLandUse	LandUseSquareFeet	1,677,730.00	1,677,734.00
tblLandUse	LandUseSquareFeet	3,187,285.20	3,187,069.00

tblProjectCharacteristics	CO2IntensityFactor	641.35	135.05
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblSolidWaste	SolidWasteGenerationRate	583.36	0.00
tblSolidWaste	SolidWasteGenerationRate	175.23	0.00
tblSolidWaste	SolidWasteGenerationRate	1,577.07	0.00
tblVehicleEF	HHD	1.97	0.02
tblVehicleEF	HHD	4.9610e-003	1.8570e-003
tblVehicleEF	HHD	0.05	0.00
tblVehicleEF	HHD	1.87	7.63
tblVehicleEF	HHD	0.48	0.21
tblVehicleEF	HHD	0.51	1.0650e-003
tblVehicleEF	HHD	5,544.66	983.60
tblVehicleEF	HHD	1,441.47	997.36
tblVehicleEF	HHD	1.53	8.7080e-003
tblVehicleEF	HHD	15.45	6.11
tblVehicleEF	HHD	1.31	2.16
tblVehicleEF	HHD	20.67	2.23
tblVehicleEF	HHD	1.5970e-003	2.2090e-003
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	5.2930e-003	0.03
tblVehicleEF	HHD	1.9000e-005	0.00
tblVehicleEF	HHD	1.5280e-003	2.1130e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.9800e-003	8.9870e-003
tblVehicleEF	HHD	5.0640e-003	0.02
tblVehicleEF	HHD	1.7000e-005	0.00

tblVehicleEF	HHD	2.1000e-005	0.00
tblVehicleEF	HHD	6.4500e-004	1.5000e-005
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tblVehicleEF	HHD	1.1000e-005	0.00
tblVehicleEF	HHD	0.08	0.02
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tblVehicleEF	HHD	8.7480e-003	0.00
tblVehicleEF	HHD	0.05	9.2900e-003
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tblVehicleEF	HHD	2.1000e-005	0.00
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tblVehicleEF	HHD	1.1000e-005	0.00
tblVehicleEF	HHD	0.09	0.02
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tblVehicleEF	HHD	4.9650e-003	1.8570e-003
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tblVehicleEF	HHD	15.95	5.81

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tblVehicleEF	HHD	20.67	2.23
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tblVehicleEF	HHD	0.04	0.04
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tblVehicleEF	HHD	8.9800e-003	8.9870e-003
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tblVehicleEF	HHD	2.2000e-005	0.00
tblVehicleEF	HHD	0.08	0.02
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tblVehicleEF	HHD	2.2000e-005	0.00
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tblVehicleEF	HHD	4.8000e-005	7.2000e-005
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tblVehicleEF	HHD	8.9800e-003	8.9850e-003
tblVehicleEF	HHD	5.0640e-003	0.02
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tblVehicleEF	HHD	4.0000e-006	0.00
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tblVehicleEF	LDA	0.01	0.11
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tblVehicleEF	LDA	5.7600e-004	4.9600e-004
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tblVehicleEF	LDA	0.03	0.04
tblVehicleEF	LDA	0.01	0.02
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tblVehicleEF	LDA	9.2370e-003	0.07
tblVehicleEF	LDA	1.6120e-003	1.8510e-003
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tblVehicleEF	LDA	0.04	0.04

tblVehicleEF	LDA	0.02	0.04
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tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.02	0.04
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tblVehicleEF	LDA	1.2130e-003	5.6500e-004
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tblVehicleEF	LDA	0.01	0.08
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tblVehicleEF	LDA	0.01	0.09
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tblVehicleEF	LDT1	0.53	1.51
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tblVehicleEF	LDT1	46.36	44.97
tblVehicleEF	LDT1	0.03	0.02
tblVehicleEF	LDT1	0.03	0.13
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tblVehicleEF	LDT1	1.3150e-003	9.0200e-004
tblVehicleEF	LDT1	7.5400e-004	5.8100e-004
tblVehicleEF	LDT1	1.2090e-003	8.2900e-004
tblVehicleEF	LDT1	0.03	0.04
tblVehicleEF	LDT1	0.06	0.06
tblVehicleEF	LDT1	0.02	0.03
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tblVehicleEF	LDT1	0.02	0.08
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tblVehicleEF	LDT1	4.7200e-004	4.4500e-004
tblVehicleEF	LDT1	0.03	0.04
tblVehicleEF	LDT1	0.06	0.06
tblVehicleEF	LDT1	0.02	0.03
tblVehicleEF	LDT1	7.1180e-003	3.5960e-003
tblVehicleEF	LDT1	0.05	0.23
tblVehicleEF	LDT1	0.02	0.09
tblVehicleEF	LDT1	2.2680e-003	9.2800e-004
tblVehicleEF	LDT1	1.1100e-003	0.02
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tblVehicleEF	LDT1	0.44	1.28
tblVehicleEF	LDT1	227.28	242.71
tblVehicleEF	LDT1	46.36	44.57
tblVehicleEF	LDT1	0.03	0.02
tblVehicleEF	LDT1	0.03	0.12
tblVehicleEF	LDT1	8.2000e-004	6.3200e-004
tblVehicleEF	LDT1	1.3150e-003	9.0200e-004
tblVehicleEF	LDT1	7.5400e-004	5.8100e-004
tblVehicleEF	LDT1	1.2090e-003	8.2900e-004
tblVehicleEF	LDT1	0.07	0.09
tblVehicleEF	LDT1	0.07	0.06
tblVehicleEF	LDT1	0.05	0.07
tblVehicleEF	LDT1	5.6210e-003	2.8120e-003
tblVehicleEF	LDT1	0.05	0.22

tblVehicleEF	LDT1	0.01	0.07
tblVehicleEF	LDT1	2.2760e-003	2.4020e-003
tblVehicleEF	LDT1	4.7000e-004	4.4100e-004
tblVehicleEF	LDT1	0.07	0.09
tblVehicleEF	LDT1	0.07	0.07
tblVehicleEF	LDT1	0.05	0.07
tblVehicleEF	LDT1	8.1980e-003	4.1400e-003
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tblVehicleEF	LDT1	0.02	0.07
tblVehicleEF	LDT1	1.8340e-003	7.2900e-004
tblVehicleEF	LDT1	1.6100e-003	0.02
tblVehicleEF	LDT1	0.32	0.37
tblVehicleEF	LDT1	0.66	1.86
tblVehicleEF	LDT1	198.67	216.32
tblVehicleEF	LDT1	46.36	45.55
tblVehicleEF	LDT1	0.03	0.02
tblVehicleEF	LDT1	0.03	0.14
tblVehicleEF	LDT1	8.2000e-004	6.3200e-004
tblVehicleEF	LDT1	1.3150e-003	9.0200e-004
tblVehicleEF	LDT1	7.5400e-004	5.8100e-004
tblVehicleEF	LDT1	1.2090e-003	8.2900e-004
tblVehicleEF	LDT1	8.7450e-003	0.01
tblVehicleEF	LDT1	0.06	0.06
tblVehicleEF	LDT1	7.9200e-003	0.01
tblVehicleEF	LDT1	4.5480e-003	2.2770e-003
tblVehicleEF	LDT1	0.06	0.27
tblVehicleEF	LDT1	0.02	0.10

tblVehicleEF	LDT1	1.9880e-003	2.1410e-003
tblVehicleEF	LDT1	4.7400e-004	4.5100e-004
tblVehicleEF	LDT1	8.7450e-003	0.01
tblVehicleEF	LDT1	0.06	0.06
tblVehicleEF	LDT1	7.9200e-003	0.01
tblVehicleEF	LDT1	6.6340e-003	3.3520e-003
tblVehicleEF	LDT1	0.06	0.27
tblVehicleEF	LDT1	0.02	0.11
tblVehicleEF	LDT2	2.1460e-003	9.9000e-004
tblVehicleEF	LDT2	1.4260e-003	0.03
tblVehicleEF	LDT2	0.41	0.46
tblVehicleEF	LDT2	0.58	1.89
tblVehicleEF	LDT2	237.91	223.43
tblVehicleEF	LDT2	52.93	45.05
tblVehicleEF	LDT2	0.03	0.02
tblVehicleEF	LDT2	0.03	0.12
tblVehicleEF	LDT2	7.8500e-004	6.3500e-004
tblVehicleEF	LDT2	1.2300e-003	8.3200e-004
tblVehicleEF	LDT2	7.2200e-004	5.8500e-004
tblVehicleEF	LDT2	1.1310e-003	7.6500e-004
tblVehicleEF	LDT2	0.03	0.05
tblVehicleEF	LDT2	0.05	0.06
tblVehicleEF	LDT2	0.02	0.04
tblVehicleEF	LDT2	5.3420e-003	3.2390e-003
tblVehicleEF	LDT2	0.04	0.22
tblVehicleEF	LDT2	0.02	0.10
tblVehicleEF	LDT2	2.3810e-003	2.2100e-003

tblVehicleEF	LDT2	5.3800e-004	4.4600e-004
tblVehicleEF	LDT2	0.03	0.05
tblVehicleEF	LDT2	0.05	0.06
tblVehicleEF	LDT2	0.02	0.04
tblVehicleEF	LDT2	7.7830e-003	4.7160e-003
tblVehicleEF	LDT2	0.04	0.22
tblVehicleEF	LDT2	0.02	0.11
tblVehicleEF	LDT2	2.4720e-003	1.1550e-003
tblVehicleEF	LDT2	1.2350e-003	0.02
tblVehicleEF	LDT2	0.51	0.57
tblVehicleEF	LDT2	0.51	1.59
tblVehicleEF	LDT2	261.22	240.39
tblVehicleEF	LDT2	52.93	44.53
tblVehicleEF	LDT2	0.03	0.02
tblVehicleEF	LDT2	0.03	0.12
tblVehicleEF	LDT2	7.8500e-004	6.3500e-004
tblVehicleEF	LDT2	1.2300e-003	8.3200e-004
tblVehicleEF	LDT2	7.2200e-004	5.8500e-004
tblVehicleEF	LDT2	1.1310e-003	7.6500e-004
tblVehicleEF	LDT2	0.07	0.11
tblVehicleEF	LDT2	0.06	0.07
tblVehicleEF	LDT2	0.05	0.09
tblVehicleEF	LDT2	6.1500e-003	3.7060e-003
tblVehicleEF	LDT2	0.04	0.21
tblVehicleEF	LDT2	0.02	0.09
tblVehicleEF	LDT2	2.6150e-003	2.3780e-003
tblVehicleEF	LDT2	5.3700e-004	4.4100e-004

tblVehicleEF	LDT2	0.07	0.11
tblVehicleEF	LDT2	0.06	0.07
tblVehicleEF	LDT2	0.05	0.09
tblVehicleEF	LDT2	8.9620e-003	5.4040e-003
tblVehicleEF	LDT2	0.04	0.21
tblVehicleEF	LDT2	0.02	0.09
tblVehicleEF	LDT2	2.0000e-003	9.0700e-004
tblVehicleEF	LDT2	1.6380e-003	0.03
tblVehicleEF	LDT2	0.38	0.42
tblVehicleEF	LDT2	0.67	2.34
tblVehicleEF	LDT2	228.40	216.53
tblVehicleEF	LDT2	52.93	45.80
tblVehicleEF	LDT2	0.03	0.02
tblVehicleEF	LDT2	0.03	0.14
tblVehicleEF	LDT2	7.8500e-004	6.3500e-004
tblVehicleEF	LDT2	1.2300e-003	8.3200e-004
tblVehicleEF	LDT2	7.2200e-004	5.8500e-004
tblVehicleEF	LDT2	1.1310e-003	7.6500e-004
tblVehicleEF	LDT2	8.6770e-003	0.01
tblVehicleEF	LDT2	0.05	0.06
tblVehicleEF	LDT2	7.8710e-003	0.01
tblVehicleEF	LDT2	4.9800e-003	3.0300e-003
tblVehicleEF	LDT2	0.05	0.26
tblVehicleEF	LDT2	0.02	0.12
tblVehicleEF	LDT2	2.2860e-003	2.1420e-003
tblVehicleEF	LDT2	5.4000e-004	4.5300e-004
tblVehicleEF	LDT2	8.6770e-003	0.01

tblVehicleEF	LDT2	0.05	0.06
tblVehicleEF	LDT2	7.8710e-003	0.01
tblVehicleEF	LDT2	7.2550e-003	4.4080e-003
tblVehicleEF	LDT2	0.05	0.26
tblVehicleEF	LDT2	0.02	0.13
tblVehicleEF	LHD1	2.9730e-003	3.3260e-003
tblVehicleEF	LHD1	5.1770e-003	4.0560e-003
tblVehicleEF	LHD1	5.0910e-003	5.8770e-003
tblVehicleEF	LHD1	0.13	0.17
tblVehicleEF	LHD1	0.47	0.39
tblVehicleEF	LHD1	1.04	0.72
tblVehicleEF	LHD1	8.97	7.86
tblVehicleEF	LHD1	620.13	639.44
tblVehicleEF	LHD1	22.79	8.37
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.41	0.19
tblVehicleEF	LHD1	0.40	0.16
tblVehicleEF	LHD1	7.4600e-004	1.0350e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.7050e-003	6.5040e-003
tblVehicleEF	LHD1	4.6500e-004	1.7200e-004
tblVehicleEF	LHD1	7.1400e-004	9.9000e-004
tblVehicleEF	LHD1	2.6340e-003	2.5060e-003
tblVehicleEF	LHD1	8.3000e-003	6.1820e-003
tblVehicleEF	LHD1	4.2700e-004	1.5800e-004
tblVehicleEF	LHD1	1.4650e-003	1.4210e-003
tblVehicleEF	LHD1	0.04	0.04

tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	7.8800e-004	7.5400e-004
tblVehicleEF	LHD1	0.09	0.07
tblVehicleEF	LHD1	0.09	0.18
tblVehicleEF	LHD1	0.07	0.03
tblVehicleEF	LHD1	8.9000e-005	7.6000e-005
tblVehicleEF	LHD1	6.0470e-003	6.2260e-003
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tblVehicleEF	LHD1	1.4650e-003	1.4210e-003
tblVehicleEF	LHD1	0.04	0.04
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	7.8800e-004	7.5400e-004
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.09	0.18
tblVehicleEF	LHD1	0.08	0.03
tblVehicleEF	LHD1	2.9730e-003	3.3350e-003
tblVehicleEF	LHD1	5.2110e-003	4.0880e-003
tblVehicleEF	LHD1	4.8090e-003	5.5720e-003
tblVehicleEF	LHD1	0.13	0.17
tblVehicleEF	LHD1	0.48	0.39
tblVehicleEF	LHD1	0.97	0.68
tblVehicleEF	LHD1	8.97	7.86
tblVehicleEF	LHD1	620.13	639.44
tblVehicleEF	LHD1	22.79	8.29
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.39	0.18
tblVehicleEF	LHD1	0.37	0.15

tblVehicleEF	LHD1	7.4600e-004	1.0350e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.7050e-003	6.5040e-003
tblVehicleEF	LHD1	4.6500e-004	1.7200e-004
tblVehicleEF	LHD1	7.1400e-004	9.9000e-004
tblVehicleEF	LHD1	2.6340e-003	2.5060e-003
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tblVehicleEF	LHD1	4.2700e-004	1.5800e-004
tblVehicleEF	LHD1	3.3490e-003	3.2650e-003
tblVehicleEF	LHD1	0.05	0.04
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	1.5190e-003	1.4710e-003
tblVehicleEF	LHD1	0.09	0.07
tblVehicleEF	LHD1	0.09	0.18
tblVehicleEF	LHD1	0.06	0.02
tblVehicleEF	LHD1	8.9000e-005	7.6000e-005
tblVehicleEF	LHD1	6.0470e-003	6.2260e-003
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tblVehicleEF	LHD1	3.3490e-003	3.2650e-003
tblVehicleEF	LHD1	0.05	0.04
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.5190e-003	1.4710e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.09	0.18
tblVehicleEF	LHD1	0.07	0.03
tblVehicleEF	LHD1	2.9730e-003	3.3150e-003
tblVehicleEF	LHD1	5.1390e-003	4.0200e-003

tblVehicleEF	LHD1	5.4300e-003	6.2410e-003
tblVehicleEF	LHD1	0.13	0.17
tblVehicleEF	LHD1	0.47	0.39
tblVehicleEF	LHD1	1.13	0.79
tblVehicleEF	LHD1	8.97	7.86
tblVehicleEF	LHD1	620.13	639.43
tblVehicleEF	LHD1	22.79	8.48
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.42	0.20
tblVehicleEF	LHD1	0.43	0.17
tblVehicleEF	LHD1	7.4600e-004	1.0350e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	8.7050e-003	6.5040e-003
tblVehicleEF	LHD1	4.6500e-004	1.7200e-004
tblVehicleEF	LHD1	7.1400e-004	9.9000e-004
tblVehicleEF	LHD1	2.6340e-003	2.5060e-003
tblVehicleEF	LHD1	8.3000e-003	6.1820e-003
tblVehicleEF	LHD1	4.2700e-004	1.5800e-004
tblVehicleEF	LHD1	4.9900e-004	4.7500e-004
tblVehicleEF	LHD1	0.04	0.04
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	3.2200e-004	3.0400e-004
tblVehicleEF	LHD1	0.09	0.07
tblVehicleEF	LHD1	0.10	0.19
tblVehicleEF	LHD1	0.07	0.03
tblVehicleEF	LHD1	8.9000e-005	7.6000e-005
tblVehicleEF	LHD1	6.0470e-003	6.2260e-003

tblVehicleEF	LHD1	2.4800e-004	8.4000e-005
tblVehicleEF	LHD1	4.9900e-004	4.7500e-004
tblVehicleEF	LHD1	0.04	0.04
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	3.2200e-004	3.0400e-004
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.10	0.19
tblVehicleEF	LHD1	0.08	0.03
tblVehicleEF	LHD2	2.1560e-003	2.0470e-003
tblVehicleEF	LHD2	4.7160e-003	4.9570e-003
tblVehicleEF	LHD2	2.0450e-003	3.0310e-003
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.43	0.49
tblVehicleEF	LHD2	0.81	0.40
tblVehicleEF	LHD2	13.35	12.50
tblVehicleEF	LHD2	661.52	628.25
tblVehicleEF	LHD2	20.92	5.35
tblVehicleEF	LHD2	0.05	0.07
tblVehicleEF	LHD2	0.09	0.27
tblVehicleEF	LHD2	0.19	0.09
tblVehicleEF	LHD2	8.7400e-004	1.5380e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	7.2360e-003	0.01
tblVehicleEF	LHD2	3.7900e-004	9.3000e-005
tblVehicleEF	LHD2	8.3600e-004	1.4710e-003
tblVehicleEF	LHD2	2.7120e-003	2.7290e-003
tblVehicleEF	LHD2	6.8990e-003	0.01

tblVehicleEF	LHD2	3.4900e-004	8.5000e-005
tblVehicleEF	LHD2	6.4300e-004	7.3800e-004
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.4200e-004	3.9700e-004
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.03	0.09
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	1.3000e-004	1.1900e-004
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tblVehicleEF	LHD2	6.4300e-004	7.3800e-004
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	3.4200e-004	3.9700e-004
tblVehicleEF	LHD2	0.10	0.11
tblVehicleEF	LHD2	0.03	0.09
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	2.1560e-003	2.0520e-003
tblVehicleEF	LHD2	4.7370e-003	4.9740e-003
tblVehicleEF	LHD2	2.0250e-003	2.8730e-003
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.43	0.49
tblVehicleEF	LHD2	0.76	0.38
tblVehicleEF	LHD2	13.35	12.50
tblVehicleEF	LHD2	661.52	628.25
tblVehicleEF	LHD2	20.92	5.31

tblVehicleEF	LHD2	0.05	0.07
tblVehicleEF	LHD2	0.09	0.26
tblVehicleEF	LHD2	0.19	0.08
tblVehicleEF	LHD2	8.7400e-004	1.5380e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	7.2360e-003	0.01
tblVehicleEF	LHD2	3.7900e-004	9.3000e-005
tblVehicleEF	LHD2	8.3600e-004	1.4710e-003
tblVehicleEF	LHD2	2.7120e-003	2.7290e-003
tblVehicleEF	LHD2	6.8990e-003	0.01
tblVehicleEF	LHD2	3.4900e-004	8.5000e-005
tblVehicleEF	LHD2	1.4820e-003	1.6910e-003
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	6.7500e-004	7.7200e-004
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tblVehicleEF	LHD2	0.03	0.09
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	1.3000e-004	1.1900e-004
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tblVehicleEF	LHD2	1.4820e-003	1.6910e-003
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	6.7500e-004	7.7200e-004
tblVehicleEF	LHD2	0.10	0.11
tblVehicleEF	LHD2	0.03	0.09

tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	2.1560e-003	2.0410e-003
tblVehicleEF	LHD2	4.6930e-003	4.9370e-003
tblVehicleEF	LHD2	2.0690e-003	3.2190e-003
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tblVehicleEF	LHD2	0.43	0.49
tblVehicleEF	LHD2	0.89	0.44
tblVehicleEF	LHD2	13.35	12.50
tblVehicleEF	LHD2	661.52	628.25
tblVehicleEF	LHD2	20.92	5.41
tblVehicleEF	LHD2	0.05	0.07
tblVehicleEF	LHD2	0.09	0.27
tblVehicleEF	LHD2	0.19	0.10
tblVehicleEF	LHD2	8.7400e-004	1.5380e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	7.2360e-003	0.01
tblVehicleEF	LHD2	3.7900e-004	9.3000e-005
tblVehicleEF	LHD2	8.3600e-004	1.4710e-003
tblVehicleEF	LHD2	2.7120e-003	2.7290e-003
tblVehicleEF	LHD2	6.8990e-003	0.01
tblVehicleEF	LHD2	3.4900e-004	8.5000e-005
tblVehicleEF	LHD2	2.1100e-004	2.4700e-004
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	1.3600e-004	1.6100e-004
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.03	0.10

tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	1.3000e-004	1.1900e-004
tblVehicleEF	LHD2	6.4260e-003	6.0530e-003
tblVehicleEF	LHD2	2.2400e-004	5.4000e-005
tblVehicleEF	LHD2	2.1100e-004	2.4700e-004
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	1.3600e-004	1.6100e-004
tblVehicleEF	LHD2	0.10	0.11
tblVehicleEF	LHD2	0.03	0.10
tblVehicleEF	LHD2	0.03	0.02
tblVehicleEF	MCY	0.45	0.32
tblVehicleEF	MCY	0.15	0.24
tblVehicleEF	MCY	17.12	17.10
tblVehicleEF	MCY	10.32	9.18
tblVehicleEF	MCY	169.79	211.77
tblVehicleEF	MCY	42.14	58.18
tblVehicleEF	MCY	1.13	1.13
tblVehicleEF	MCY	0.31	0.27
tblVehicleEF	MCY	3.2220e-003	2.8610e-003
tblVehicleEF	MCY	3.0080e-003	2.6700e-003
tblVehicleEF	MCY	1.58	1.57
tblVehicleEF	MCY	0.83	0.83
tblVehicleEF	MCY	0.80	0.80
tblVehicleEF	MCY	2.10	2.10
tblVehicleEF	MCY	0.35	1.30
tblVehicleEF	MCY	2.05	1.82

tblVehicleEF	MCY	2.0410e-003	2.0960e-003
tblVehicleEF	MCY	6.5000e-004	5.7600e-004
tblVehicleEF	MCY	1.58	1.57
tblVehicleEF	MCY	0.83	0.83
tblVehicleEF	MCY	0.80	0.80
tblVehicleEF	MCY	2.63	2.63
tblVehicleEF	MCY	0.35	1.30
tblVehicleEF	MCY	2.23	1.98
tblVehicleEF	MCY	0.45	0.31
tblVehicleEF	MCY	0.13	0.21
tblVehicleEF	MCY	17.45	17.42
tblVehicleEF	MCY	9.10	8.06
tblVehicleEF	MCY	169.79	212.18
tblVehicleEF	MCY	42.14	55.55
tblVehicleEF	MCY	0.99	0.99
tblVehicleEF	MCY	0.29	0.25
tblVehicleEF	MCY	3.2220e-003	2.8610e-003
tblVehicleEF	MCY	3.0080e-003	2.6700e-003
tblVehicleEF	MCY	3.96	3.94
tblVehicleEF	MCY	1.36	1.36
tblVehicleEF	MCY	2.05	2.05
tblVehicleEF	MCY	2.07	2.07
tblVehicleEF	MCY	0.34	1.27
tblVehicleEF	MCY	1.77	1.56
tblVehicleEF	MCY	2.0450e-003	2.1000e-003
tblVehicleEF	MCY	6.2200e-004	5.5000e-004
tblVehicleEF	MCY	3.96	3.94

tblVehicleEF	MCY	1.36	1.36
tblVehicleEF	MCY	2.05	2.05
tblVehicleEF	MCY	2.60	2.59
tblVehicleEF	MCY	0.34	1.27
tblVehicleEF	MCY	1.92	1.70
tblVehicleEF	MCY	0.47	0.33
tblVehicleEF	MCY	0.18	0.29
tblVehicleEF	MCY	18.29	18.26
tblVehicleEF	MCY	12.31	11.00
tblVehicleEF	MCY	169.79	213.90
tblVehicleEF	MCY	42.14	62.27
tblVehicleEF	MCY	1.23	1.23
tblVehicleEF	MCY	0.34	0.29
tblVehicleEF	MCY	3.2220e-003	2.8610e-003
tblVehicleEF	MCY	3.0080e-003	2.6700e-003
tblVehicleEF	MCY	0.39	0.39
tblVehicleEF	MCY	0.78	0.77
tblVehicleEF	MCY	0.18	0.18
tblVehicleEF	MCY	2.17	2.17
tblVehicleEF	MCY	0.43	1.57
tblVehicleEF	MCY	2.45	2.18
tblVehicleEF	MCY	2.0620e-003	2.1170e-003
tblVehicleEF	MCY	6.9400e-004	6.1600e-004
tblVehicleEF	MCY	0.39	0.39
tblVehicleEF	MCY	0.78	0.77
tblVehicleEF	MCY	0.18	0.18
tblVehicleEF	MCY	2.73	2.73

tblVehicleEF	MCY	0.43	1.57
tblVehicleEF	MCY	2.67	2.37
tblVehicleEF	MDV	2.6910e-003	1.0010e-003
tblVehicleEF	MDV	3.5610e-003	0.03
tblVehicleEF	MDV	0.47	0.46
tblVehicleEF	MDV	0.94	1.96
tblVehicleEF	MDV	312.80	270.52
tblVehicleEF	MDV	70.59	54.80
tblVehicleEF	MDV	0.04	0.02
tblVehicleEF	MDV	0.07	0.14
tblVehicleEF	MDV	8.0700e-004	6.1900e-004
tblVehicleEF	MDV	1.3260e-003	8.7100e-004
tblVehicleEF	MDV	7.4300e-004	5.7000e-004
tblVehicleEF	MDV	1.2200e-003	8.0100e-004
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.11	0.09
tblVehicleEF	MDV	0.06	0.07
tblVehicleEF	MDV	6.7940e-003	3.3710e-003
tblVehicleEF	MDV	0.06	0.27
tblVehicleEF	MDV	0.05	0.12
tblVehicleEF	MDV	3.1260e-003	2.6730e-003
tblVehicleEF	MDV	7.2100e-004	5.4200e-004
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.11	0.09
tblVehicleEF	MDV	0.06	0.07
tblVehicleEF	MDV	9.8650e-003	4.8980e-003
tblVehicleEF	MDV	0.06	0.27

tblVehicleEF	MDV	0.05	0.13
tblVehicleEF	MDV	3.0980e-003	1.1690e-003
tblVehicleEF	MDV	2.9890e-003	0.02
tblVehicleEF	MDV	0.58	0.57
tblVehicleEF	MDV	0.81	1.64
tblVehicleEF	MDV	342.71	287.23
tblVehicleEF	MDV	70.59	54.25
tblVehicleEF	MDV	0.04	0.02
tblVehicleEF	MDV	0.07	0.13
tblVehicleEF	MDV	8.0700e-004	6.1900e-004
tblVehicleEF	MDV	1.3260e-003	8.7100e-004
tblVehicleEF	MDV	7.4300e-004	5.7000e-004
tblVehicleEF	MDV	1.2200e-003	8.0100e-004
tblVehicleEF	MDV	0.16	0.19
tblVehicleEF	MDV	0.12	0.11
tblVehicleEF	MDV	0.12	0.15
tblVehicleEF	MDV	7.8010e-003	3.8530e-003
tblVehicleEF	MDV	0.06	0.26
tblVehicleEF	MDV	0.04	0.10
tblVehicleEF	MDV	3.4270e-003	2.8390e-003
tblVehicleEF	MDV	7.1900e-004	5.3700e-004
tblVehicleEF	MDV	0.16	0.19
tblVehicleEF	MDV	0.12	0.11
tblVehicleEF	MDV	0.12	0.15
tblVehicleEF	MDV	0.01	5.6070e-003
tblVehicleEF	MDV	0.06	0.27
tblVehicleEF	MDV	0.04	0.11

tblVehicleEF	MDV	2.5080e-003	9.1700e-004
tblVehicleEF	MDV	4.1950e-003	0.03
tblVehicleEF	MDV	0.43	0.42
tblVehicleEF	MDV	1.12	2.42
tblVehicleEF	MDV	300.60	263.72
tblVehicleEF	MDV	70.59	55.59
tblVehicleEF	MDV	0.04	0.02
tblVehicleEF	MDV	0.08	0.16
tblVehicleEF	MDV	8.0700e-004	6.1900e-004
tblVehicleEF	MDV	1.3260e-003	8.7100e-004
tblVehicleEF	MDV	7.4300e-004	5.7000e-004
tblVehicleEF	MDV	1.2200e-003	8.0100e-004
tblVehicleEF	MDV	0.02	0.03
tblVehicleEF	MDV	0.10	0.09
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	6.3430e-003	3.1560e-003
tblVehicleEF	MDV	0.08	0.32
tblVehicleEF	MDV	0.06	0.14
tblVehicleEF	MDV	3.0040e-003	2.6060e-003
tblVehicleEF	MDV	7.2400e-004	5.5000e-004
tblVehicleEF	MDV	0.02	0.03
tblVehicleEF	MDV	0.10	0.09
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	9.2060e-003	4.5800e-003
tblVehicleEF	MDV	0.08	0.32
tblVehicleEF	MDV	0.06	0.16
tblVehicleEF	MH	4.8350e-003	4.1210e-003

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tblVehicleEF	MH	0.22	0.28
tblVehicleEF	MH	3.10	0.00
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tblVehicleEF	MH	55.35	0.00
tblVehicleEF	MH	0.71	2.98
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tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	7.9380e-003	0.04
tblVehicleEF	MH	8.6500e-004	0.00
tblVehicleEF	MH	3.2240e-003	4.0000e-003
tblVehicleEF	MH	7.5550e-003	0.04
tblVehicleEF	MH	7.9500e-004	0.00
tblVehicleEF	MH	0.43	0.00
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.16	0.00
tblVehicleEF	MH	0.03	0.09
tblVehicleEF	MH	3.0550e-003	0.00
tblVehicleEF	MH	0.19	0.00
tblVehicleEF	MH	0.01	8.2390e-003
tblVehicleEF	MH	6.0700e-004	0.00
tblVehicleEF	MH	0.43	0.00
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.16	0.00
tblVehicleEF	MH	0.04	0.10
tblVehicleEF	MH	3.0550e-003	0.00
tblVehicleEF	MH	0.20	0.00

tblVehicleEF	MH	4.9510e-003	4.1210e-003
tblVehicleEF	MH	0.01	0.00
tblVehicleEF	MH	0.23	0.28
tblVehicleEF	MH	2.81	0.00
tblVehicleEF	MH	1,172.19	871.52
tblVehicleEF	MH	55.35	0.00
tblVehicleEF	MH	0.67	2.84
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tblVehicleEF	MH	7.9380e-003	0.04
tblVehicleEF	MH	8.6500e-004	0.00
tblVehicleEF	MH	3.2240e-003	4.0000e-003
tblVehicleEF	MH	7.5550e-003	0.04
tblVehicleEF	MH	7.9500e-004	0.00
tblVehicleEF	MH	1.00	0.00
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.30	0.00
tblVehicleEF	MH	0.03	0.09
tblVehicleEF	MH	3.0160e-003	0.00
tblVehicleEF	MH	0.18	0.00
tblVehicleEF	MH	0.01	8.2390e-003
tblVehicleEF	MH	6.0200e-004	0.00
tblVehicleEF	MH	1.00	0.00
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.30	0.00
tblVehicleEF	MH	0.04	0.10
tblVehicleEF	MH	3.0160e-003	0.00

tblVehicleEF	MH	0.19	0.00
tblVehicleEF	MH	4.6960e-003	4.1210e-003
tblVehicleEF	MH	0.01	0.00
tblVehicleEF	MH	0.21	0.28
tblVehicleEF	MH	3.46	0.00
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tblVehicleEF	MH	55.35	0.00
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tblVehicleEF	MH	8.6500e-004	0.00
tblVehicleEF	MH	3.2240e-003	4.0000e-003
tblVehicleEF	MH	7.5550e-003	0.04
tblVehicleEF	MH	7.9500e-004	0.00
tblVehicleEF	MH	0.15	0.00
tblVehicleEF	MH	0.02	0.00
tblVehicleEF	MH	0.08	0.00
tblVehicleEF	MH	0.03	0.09
tblVehicleEF	MH	3.3180e-003	0.00
tblVehicleEF	MH	0.20	0.00
tblVehicleEF	MH	0.01	8.2390e-003
tblVehicleEF	MH	6.1300e-004	0.00
tblVehicleEF	MH	0.15	0.00
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tblVehicleEF	MH	0.03	0.10

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tblVehicleEF	MH	0.22	0.00
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tblVehicleEF	MHD	2.4940e-003	1.0740e-003
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tblVehicleEF	MHD	0.36	0.49
tblVehicleEF	MHD	0.23	0.16
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tblVehicleEF	MHD	0.35	0.33
tblVehicleEF	MHD	1.02	1.62
tblVehicleEF	MHD	10.38	1.58
tblVehicleEF	MHD	3.2000e-005	9.6000e-005
tblVehicleEF	MHD	2.9140e-003	8.0330e-003
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tblVehicleEF	MHD	3.1000e-005	9.2000e-005
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tblVehicleEF	MHD	7.3900e-004	1.4000e-004
tblVehicleEF	MHD	8.2200e-004	5.6600e-004
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	4.3900e-004	3.0300e-004
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	0.01	0.09
tblVehicleEF	MHD	0.19	0.05

tblVehicleEF	MHD	1.3130e-003	6.1300e-004
tblVehicleEF	MHD	0.01	9.5870e-003
tblVehicleEF	MHD	6.0900e-004	1.0600e-004
tblVehicleEF	MHD	8.2200e-004	5.6600e-004
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	0.03	0.03
tblVehicleEF	MHD	4.3900e-004	3.0300e-004
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.01	0.09
tblVehicleEF	MHD	0.20	0.06
tblVehicleEF	MHD	0.02	4.9960e-003
tblVehicleEF	MHD	2.5150e-003	1.0940e-003
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tblVehicleEF	MHD	0.25	0.41
tblVehicleEF	MHD	0.23	0.16
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tblVehicleEF	MHD	10.36	1.57
tblVehicleEF	MHD	2.7000e-005	8.4000e-005
tblVehicleEF	MHD	2.9140e-003	8.0330e-003
tblVehicleEF	MHD	8.0400e-004	1.5200e-004
tblVehicleEF	MHD	2.6000e-005	8.0000e-005
tblVehicleEF	MHD	2.7800e-003	7.6760e-003

tblVehicleEF	MHD	7.3900e-004	1.4000e-004
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tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	8.6300e-004	5.9400e-004
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	0.01	0.09
tblVehicleEF	MHD	0.18	0.05
tblVehicleEF	MHD	1.3900e-003	6.1000e-004
tblVehicleEF	MHD	0.01	9.5870e-003
tblVehicleEF	MHD	6.0500e-004	1.0400e-004
tblVehicleEF	MHD	1.8900e-003	1.3020e-003
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tblVehicleEF	MHD	0.03	0.03
tblVehicleEF	MHD	8.6300e-004	5.9400e-004
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.01	0.09
tblVehicleEF	MHD	0.19	0.05
tblVehicleEF	MHD	0.02	5.6140e-003
tblVehicleEF	MHD	2.4700e-003	1.0510e-003
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tblVehicleEF	MHD	0.23	0.16
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tblVehicleEF	MHD	1,166.86	1,003.01
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tblVehicleEF	MHD	4.0000e-005	1.1200e-004
tblVehicleEF	MHD	2.9140e-003	8.0330e-003
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tblVehicleEF	MHD	3.8000e-005	1.0700e-004
tblVehicleEF	MHD	2.7800e-003	7.6760e-003
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tblVehicleEF	MHD	2.7200e-004	1.8700e-004
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tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	1.7600e-004	1.2100e-004
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tblVehicleEF	MHD	0.01	0.10
tblVehicleEF	MHD	0.20	0.06
tblVehicleEF	MHD	1.2090e-003	6.2000e-004
tblVehicleEF	MHD	0.01	9.5870e-003
tblVehicleEF	MHD	6.1300e-004	1.0700e-004
tblVehicleEF	MHD	2.7200e-004	1.8700e-004
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	0.04	0.03
tblVehicleEF	MHD	1.7600e-004	1.2100e-004
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tblVehicleEF	MHD	0.01	0.10
tblVehicleEF	MHD	0.22	0.06
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tblVehicleEF	OBUS	4.0480e-003	3.0620e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.25	0.61
tblVehicleEF	OBUS	0.28	0.31
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tblVehicleEF	OBUS	1,266.39	1,211.12
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tblVehicleEF	OBUS	0.71	1.05
tblVehicleEF	OBUS	2.42	0.81
tblVehicleEF	OBUS	2.0000e-005	1.1700e-004
tblVehicleEF	OBUS	2.5790e-003	6.9130e-003
tblVehicleEF	OBUS	1.0250e-003	2.1400e-004
tblVehicleEF	OBUS	1.9000e-005	1.1200e-004
tblVehicleEF	OBUS	2.4400e-003	6.5880e-003
tblVehicleEF	OBUS	9.4300e-004	1.9700e-004
tblVehicleEF	OBUS	1.9400e-003	2.5600e-003
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.03	0.05
tblVehicleEF	OBUS	7.1300e-004	9.5100e-004
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.04	0.31
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tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.2400e-004	1.6500e-004

tblVehicleEF	OBUS	1.9400e-003	2.5600e-003
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.05	0.07
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tblVehicleEF	OBUS	0.04	0.31
tblVehicleEF	OBUS	0.28	0.11
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tblVehicleEF	OBUS	4.1280e-003	3.1500e-003
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tblVehicleEF	OBUS	0.24	0.61
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tblVehicleEF	OBUS	2.38	0.79
tblVehicleEF	OBUS	1.7000e-005	1.0400e-004
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tblVehicleEF	OBUS	0.02	0.03

tblVehicleEF	OBUS	0.03	0.05
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tblVehicleEF	OBUS	0.05	0.07
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tblVehicleEF	OBUS	0.27	0.10
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tblVehicleEF	OBUS	2.47	0.83

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tblVehicleEF	OBUS	6.6000e-004	9.0300e-004
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.03	0.05
tblVehicleEF	OBUS	3.4400e-004	4.7100e-004
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.04	0.34
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tblVehicleEF	OBUS	0.04	0.34
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tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
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tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	9.3258	2.0000e-004	0.0220	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0430	0.0430	1.1000e-004	0.0000	0.0458
Energy	0.2167	1.9696	1.6545	0.0118		0.1497	0.1497		0.1497	0.1497	0.0000	3,647.8224	3,647.8224	0.3640	0.1061	3,688.5444
Mobile	1.6618	145.8944	18.5638	0.6194	25.4428	1.6369	27.0797	6.9926	1.5660	8.5586	0.0000	59,515.5907	59,515.5907	0.1230	0.0000	59,518.6646
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**11.2043**	**147.8642**	**20.2402**	**0.6312**	**25.4428**	**1.7867**	**27.2294**	**6.9926**	**1.7158**	**8.7084**	**0.0000**	**63,163.4561**	**63,163.4561**	**0.4871**	**0.1061**	**63,207.2547**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	9.3258	2.0000e-004	0.0220	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0430	0.0430	1.1000e-004	0.0000	0.0458
Energy	0.1574	1.4312	1.2022	8.5900e-003		0.1088	0.1088		0.1088	0.1088	0.0000	3,011.0827	3,011.0827	0.3419	0.0931	3,047.3797
Mobile	1.6618	145.8944	18.5638	0.6194	25.4428	1.6369	27.0797	6.9926	1.5660	8.5586	0.0000	59,515.5907	59,515.5907	0.1230	0.0000	59,518.6646
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**11.1451**	**147.3258**	**19.7880**	**0.6280**	**25.4428**	**1.7457**	**27.1885**	**6.9926**	**1.6749**	**8.6674**	**0.0000**	**62,526.7164**	**62,526.7164**	**0.4650**	**0.0931**	**62,566.0901**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.53**	**0.36**	**2.23**	**0.51**	**0.00**	**2.29**	**0.15**	**0.00**	**2.38**	**0.47**	**0.00**	**1.01**	**1.01**	**4.54**	**12.24**	**1.01**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.6618	145.8944	18.5638	0.6194	25.4428	1.6369	27.0797	6.9926	1.5660	8.5586	0.0000	59,515.5907	59,515.5907	0.1230	0.0000	59,518.6646
Unmitigated	1.6618	145.8944	18.5638	0.6194	25.4428	1.6369	27.0797	6.9926	1.5660	8.5586	0.0000	59,515.5907	59,515.5907	0.1230	0.0000	59,518.6646

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	500.42	500.42	500.42	19,734,351	19,734,351
Other Asphalt Surfaces	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	500.42	500.42	500.42	19,734,350	19,734,350
Unrefrigerated Warehouse-No Rail	500.47	500.47	500.47	19,736,291	19,736,291
Total	1,501.30	1,501.30	1,501.30	59,204,992	59,204,992

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	108.34	6.60	6.60	100.00	0.00	0.00	100	0	0
Other Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No Rail	108.34	6.60	6.60	100.00	0.00	0.00	100	0	0
Unrefrigerated Warehouse-No Rail	108.34	6.60	6.60	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Other Asphalt Surfaces	0.534298	0.026091	0.159425	0.086793	0.008070	0.003341	0.010188	0.162886	0.001596	0.001199	0.004952	0.000740	0.000422
Refrigerated Warehouse-No Rail	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Unrefrigerated Warehouse-No Rail	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000

Appendix D Biological Technical Report

Appendices

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Biological Technical Report

Jackson Ranch Specific Plan

Kettleman City, Kings County, California

Prepared For:

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Prepared By:

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Under the direction of Principal Biologist:

Donald R. Mitchell

ECORP Consulting, Inc. has assisted public and private land owners with environmental regulation compliance since 1987. We offer full service capability, from initial baseline environmental studies through environmental planning review, permitting negotiation, liaison to obtain legal agreements, mitigation design, construction monitoring, and compliance reporting.

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LIST OF ACRONYMS AND ABBREVIATIONS

amsl	Above mean sea level
AOU	American Ornithologist's Union
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society's
CNPSEI	Electronic Inventory

LIST OF ACRONYMS AND ABBREVIATIONS

CUP	Conditional Use Permit
CWA	Clean Water Act's
ESA	Endangered Species Act
GPS	Global Positioning System
HCP	habitat conservation plan
I-5	Interstate 5
MBTA	Migratory Bird Treaty Act
MM	Mitigation measures
NCCP	Natural Community Conservation Plan
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service's
NWI	National Wetland Inventory
SAA	Streambed Alteration Agreement
SSAR	Society for the Study of Amphibians and Reptiles
SSC	Species of Special Concern
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	U.S. Geological Survey

1.0 INTRODUCTION

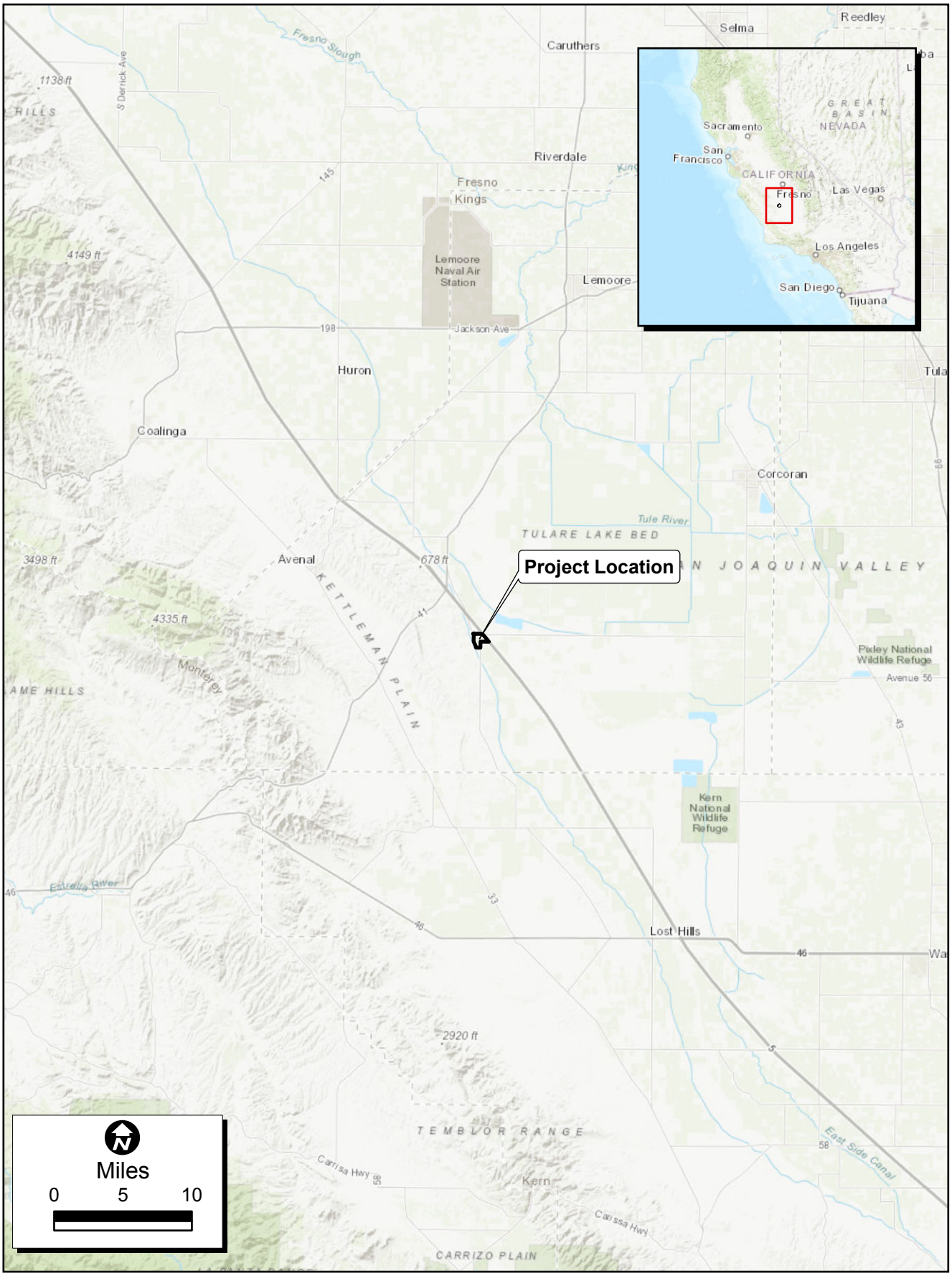
In March 2019, ECORP Consulting, Inc. conducted a biological reconnaissance survey of the 425-acre property encompassing the Jackson Ranch Specific Plan area (Project Area) located in an unincorporated area of Kings County, California (Figure 1. *Project Vicinity*). The study was conducted for the Project Area to allow the construction and operation of commercial and travel services (as accommodated by the Jackson Ranch Specific Plan) to support the large volume of vehicular traffic on Interstate 5 (I-5), which passes along and abuts the eastern boundary of the Project Area. The survey of the Project Area was conducted to identify biological resources that could be affected by the Jackson Ranch Specific Plan (Project), pursuant to the terms of the California Environmental Quality Act (CEQA) and for the purposes of identifying any biological constraints that could affect the land use plan for the Project. The Project is subject to county, state, and federal regulations regarding compliance with the federal Endangered Species Act (ESA), California ESA, Migratory Bird Treaty Act (MBTA), and California Fish and Game Code.

1.1 Location and Setting

The Project Area consists of approximately 425 acres in an unincorporated area of southern Kings County, California. The Project Area is halfway between San Francisco and Los Angeles, approximately 70 miles northwest of the City of Bakersfield and 70 miles southwest of the City of Fresno. The Project Area is bounded Utica Avenue to the north, I-5 to the east, agricultural land to the south, and agricultural land and the California Aqueduct to the west. The Project Area comprises three assessor's parcels: Assessor's Parcel Numbers) 048-010-018, 048-010-016, and 048-020-030. As shown on the U.S. Geological Survey (USGS) 7.5-minute Los Viejos, California topographic quadrangle map (USGS 1954), the Project Area is located in the Sections 15 and 16 of Township 23 South, Range 19 East, of the Mount Diablo Base and Meridian (Figure 2. *Project Location*).

1.2 Project Description

This study was conducted in support of the proposed project, which consists of the development and implementation of a specific plan for approximately 425 acres along Interstate 5 at the Utica Avenue off-ramp in unincorporated Kings County. The Jackson Ranch Specific Plan (Project) would serve as an innovative service and commercial center that will encourage economic growth while preserving the agricultural heritage of the region. As the halfway point between San Francisco and Los Angeles, Jackson Ranch offers a visible rest stop to the high volume of motorists who pass by annually. Upon completion, Jackson Ranch would be the only stop to offer food, lodging, a truck stop, and service stations within a 39-mile stretch of the highway. A total of just under 2.6 million square feet of commercial space is planned for approximately 142 acres of the area covered by the Specific Plan. Approximately 207 acres is to be designated for agricultural use, and an additional 56 acres is to be designated as agricultural use with an overlay for a potential future airstrip (Figure 3).



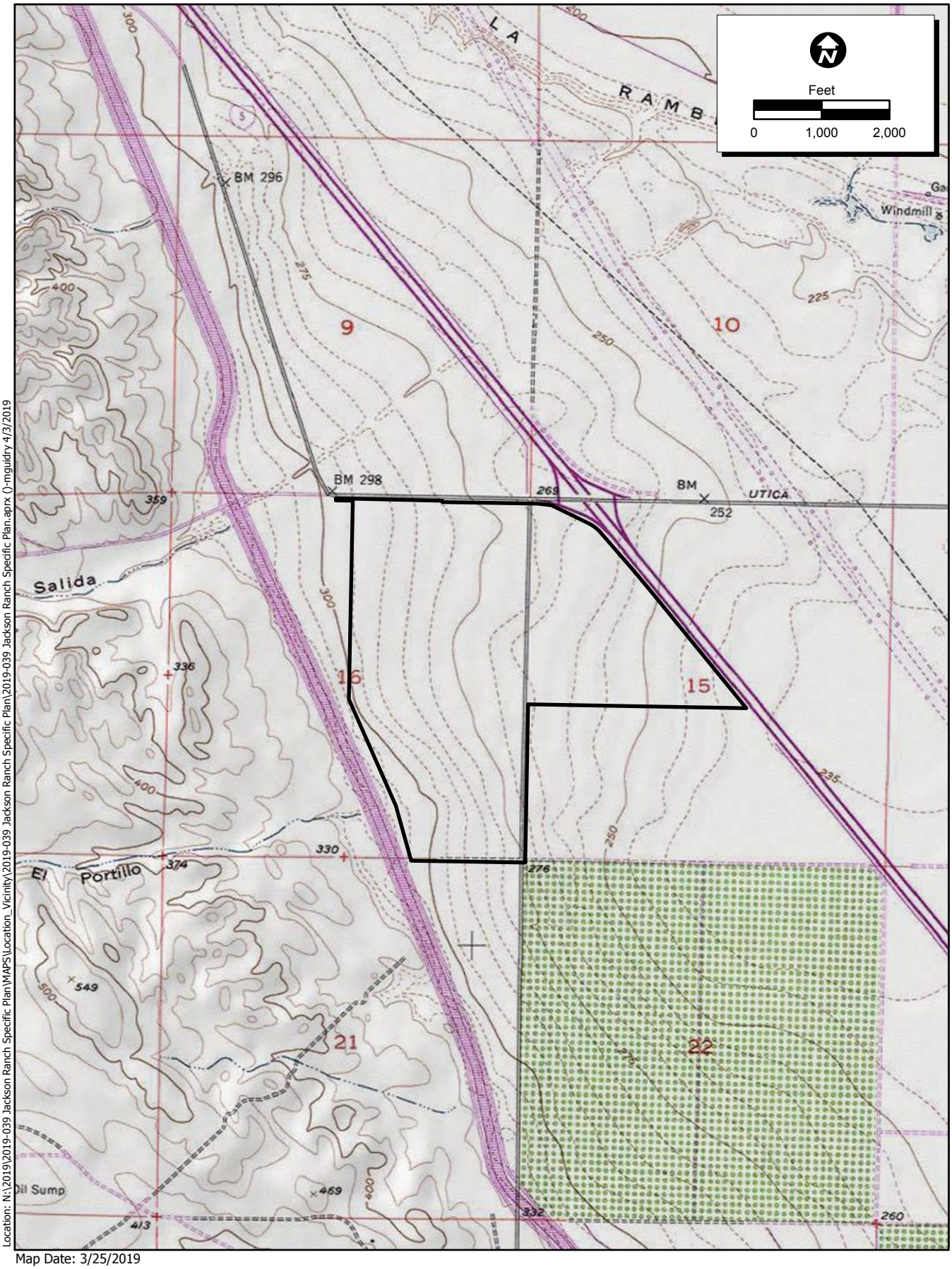
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Map Date: 3/25/2019
Service Layer Credits: World Topographic Map: Sources: Esri

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Figure 1. Project Vicinity

2019-039 Jackson Ranch Specific Plan Vicinity Layout Temple Hills Drive Sidewalk



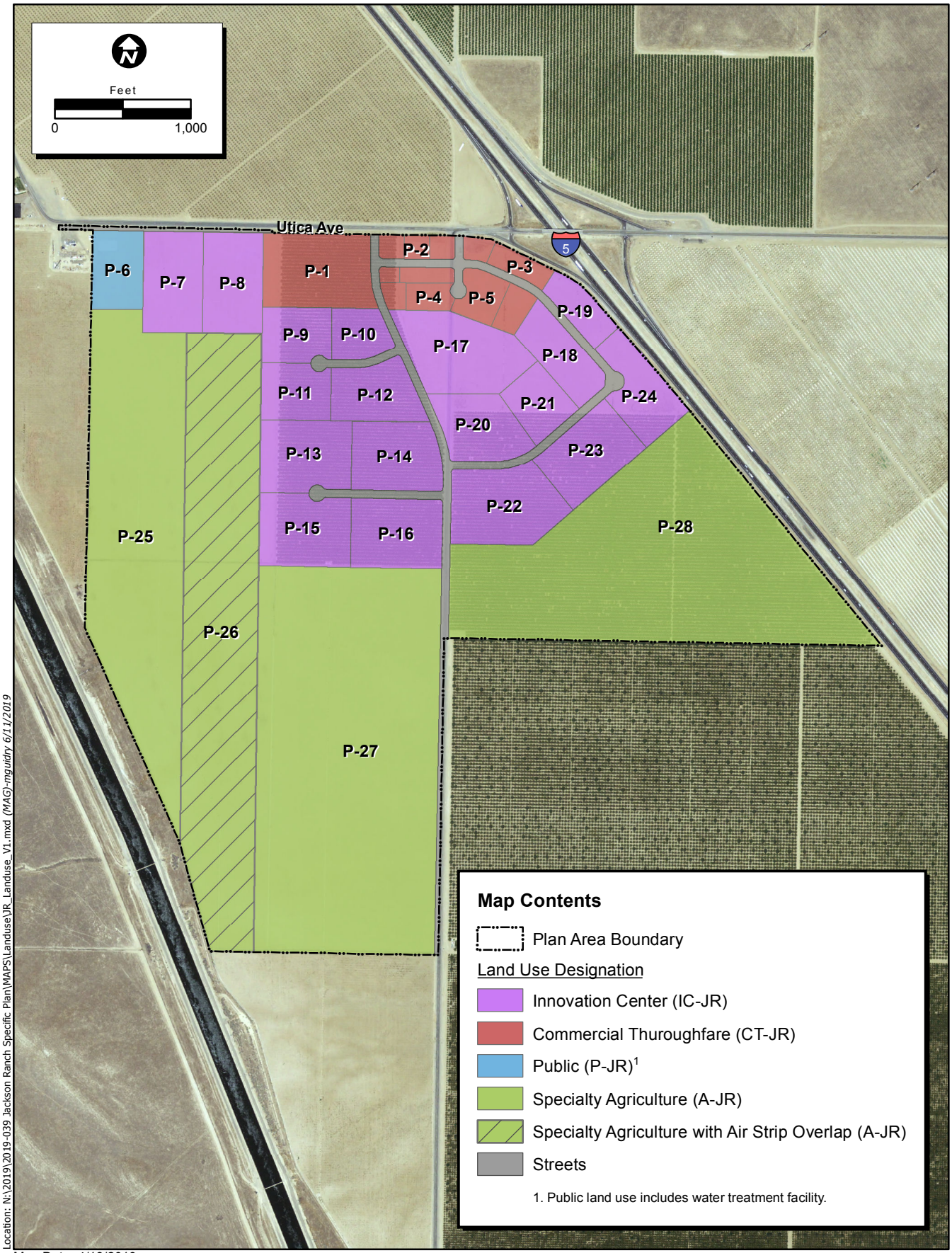
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Source: ESRI

Figure 2. Project Location

2019-039 Jackson Ranch Specific Plan Location Layout Park Sierra

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Map Date: 4/18/2019
Photo Source: NAIP 2016

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Figure 3. Land Use

2019-039 Jackson Ranch Specific Plan

2.0 SPECIAL-STATUS SPECIES REGULATIONS

This biological reconnaissance survey was conducted to identify potential issues and ensure compliance with state and federal regulations regarding listed, protected, and sensitive species. The regulations are detailed below.

2.1 Federal Regulations

2.1.1 The Federal Endangered Species Act

The ESA protects plants and animals that are listed as endangered or threatened by the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service. Section 9 of the ESA prohibits the taking of endangered wildlife, where taking is defined as "*harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct*" (50 Code of Federal Regulations [CFR] 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any endangered plant on federal land and removing, cutting, digging up, damaging, or destroying any endangered plant on non-federal land in knowing violation of state law (16 U.S. Code 1538). Under Section 7 of the ESA, federal agencies are required to consult with USFWS if their actions, including permit approvals or funding, could adversely affect a listed (or proposed) species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion (BO), the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued existence of the species. Section 10 of the ESA provides for issuance of incidental take permits where no other federal actions are necessary provided a habitat conservation plan (HCP) is developed.

2.1.2 Migratory Bird Treaty Act

The MBTA implements international treaties between the United States and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities including hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR Part 13 General Permit Procedures and 50 CFR Part 21 Migratory Bird Permits. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the California Fish and Game Code.

In December 2017, the Department of the Interior (DOI) issued a memorandum reversing the incidental take interpretation of the MBTA. Take of a migratory bird or its active nest (i.e., with eggs or young) that is incidental to a lawful activity does not violate the MBTA.

However, Assembly Bill 454: An important bill seeking to continue protections for California's migratory birds in the face of federal rollbacks today passed a key committee hurdle in the California State Assembly.

2.1.3 Federal Clean Water Act

The federal Clean Water Act's (CWA) purpose is to "*restore and maintain the chemical, physical, and biological integrity of the nation's waters.*" Section 404 of the CWA prohibits the discharge of dredged or fill material into Waters of the United States (U.S.) without a permit from the U.S. Army Corps of Engineers (USACE). The definition of Waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas "that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3 7b). The U.S. Environmental Protection Agency (USEPA) acts as a cooperating agency to set policy, guidance and criteria for use in evaluation permit applications and also reviews USACE permit applications.

The USACE regulates "fill" or dredging of fill material within its jurisdictional features. "Fill material" means any material used for the primary purpose of replacing an aquatic area with dry land or changing the bottom elevation of a water body. Substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the State Water Quality Control Board, administered by each of nine California Regional Water Quality Control Boards.

2.2 State and Local Regulations

2.2.1 California Endangered Species Act

The California ESA generally parallels the main provisions of the ESA but, unlike its federal counterpart, the California ESA applies the take prohibitions to species proposed for listing (called "candidates" by the state). Section 2080 of the California Fish and Game Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The California ESA allows for take incidental to otherwise lawful development projects. State lead agencies are required to consult with California Department of Fish and Wildlife (CDFW) to ensure that any action they undertake is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of essential habitat.

2.2.2 Fully Protected Species

The State of California first began to designate species as "fully protected" prior to the creation of the federal and California ESAs. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction, and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under federal and/or California ESAs. The regulations that implement the Fully Protected Species Statute (California Fish and Game Code § 4700) provide that fully protected species may not be taken or possessed at any time. Furthermore, CDFW prohibits any state agency from issuing incidental take permits for fully protected species, except for necessary scientific research.

2.2.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 (California Fish and Game Code §§ 1900-1913) was created with the intent to "preserve, protect and enhance rare and endangered plants in this State." The NPPA is administered by CDFW. The Fish and Wildlife Commission has the authority to designate native plants as "endangered" or "rare" and to protect endangered and rare plants from take. The California ESA of 1984 (California Fish and Game Code § 2050-2116) provided further protection for rare and endangered plant species, but the NPPA remains part of the California Fish and Game Code.

2.2.4 California Fish and Game Code

Streambed Alteration Agreement

Section 1602 of the California Fish and Game Code requires that a Notification of Lake or Streambed Alteration be submitted to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." The CDFW reviews the proposed actions and, if necessary, submits to the Applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW and the Applicant is the Streambed Alteration Agreement (SAA). Often, projects that require an SAA also require a permit from the USACE under Section 404 of the CWA. In these instances, the conditions of the Section 404 permit and the SAA may overlap.

Migratory Birds

The CDFW enforces the protection of nongame native birds in §§ 3503, 3503.5, and 3800 of the California Fish and Game Code. Section 3513 of the California Fish and Game Code prohibits the possession or take of birds listed under the MBTA. These sections mandate the protection of California nongame native birds' nests and make it unlawful to take these birds. All raptor species are protected from "take" pursuant to California Fish and Game Code § 3503.5 and are also protected at the federal level by the MBTA of 1918 (USFWS 1918).

2.2.5 CEQA Significance Criteria

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant. Based on these examples, impacts to biological resources would normally be considered significant if the project would:

- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;

- have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means;
- interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and
- conflict with the provisions of an adopted HCP, Natural Community Conservation Plan (NCCP), or other approved local, regional or state HCP.

An evaluation of whether an impact to biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of an important resource on a population-wide or region-wide basis.

3.0 METHODS

3.1 Literature Review

Prior to conducting the biological reconnaissance survey, ECORP biologists performed a literature review using the CDFW's California Natural Diversity Database (CNDDB; CDFW 2019a) and the California Native Plant Society's (CNPS') Electronic Inventory (CNPSEI; CNPS 2019) to determine the special-status plant and wildlife species that have been documented near the Project Area. The CNDDB and CNPSEI database searches were conducted on February 27, 2019. ECORP searched CNDDB and CNPSEI records within the Project Area boundaries as depicted on USGS 7.5-minute Los Viejos topographic quadrangle, plus the surrounding eight topographic quadrangles, including Avenal Gap, Dudley Ridge, Kettleman City, Kettleman Plain, La Cima, Pyramid Hills, Stratford Southeast, and West Camp. The CNDDB and CNPSEI contain records of reported occurrences of federally or state-listed endangered, threatened, proposed endangered or threatened species, California Species of Special Concern (SSC), and/or other special-status species or habitat that may occur within or near the Project. Additional information was gathered from the following sources and includes, but is not limited to:

- Natural Resources Conservation Service (NRCS) *Web Soil Survey* (NRCS 2019);
- *State and Federally Listed Endangered and Threatened Animals of California* (CDFW 2019b);
- *Special Animals List* (CDFW 2019c);
- *The Jepson Manual* (Hickman 1993);

- *The Manual of California Vegetation*, 2nd Edition (Sawyer et al. 2009); and
- various online websites (e.g., Calflora 2019).

Using this information and observations in the field, a list of special-status plant and animal species that have potential to occur on or near the Project Area was generated. For the purposes of this assessment, special-status species are defined as plants or animals that:

- have been designated as either rare, threatened, or endangered by CDFW, CNPS, or the USFWS, and/or are protected under either the federal or California ESAs;
- are candidate species being considered or proposed for listing under these same acts;
- are fully protected by the California Fish and Game Code, §§ 3511, 4700, 5050, or 5515; and/or
- are of expressed concern to resource and regulatory agencies or local jurisdictions.

Special-status species reported for the region in the literature review or for which suitable habitat occurs within the Project Area were assessed for their potential to occur within the Project Area based on the following guidelines:

- **Present:** The species was observed within the Project Area during a site visit or focused survey.
- **High:** Habitat (including soils and elevation factors) for the species occurs within the Project Area and a known occurrence has been recorded within five miles of the Project Area.
- **Moderate:** Either habitat (including soils and elevation factors) for the species occurs within the Project Area and a known occurrence has been reported in the database, but not within five miles of the Project Area, or a known occurrence occurs within five miles of the Project Area and marginal or limited amounts of habitat occurs within the Project Area.
- **Low:** Limited habitat for the species occurs within the Project Area and a known occurrence has been reported in the database, but not within five miles of the Project Area, or suitable habitat strongly associated with the species occurs within the Project Area, but no records were found in the database search.
- **Presumed Absent:** Focused surveys were conducted, and the species was not found, or species was found in the database search but habitat (including soils and elevation factors) is not present within the Project Area, or the known geographic range of the species does not include the survey area.

Note that location information on some special-status species may be of questionable accuracy or unavailable. Therefore, for survey purposes, the environmental factors associated with a species' occurrence requirements may be considered sufficient reason to give a species a positive potential for occurrence. In addition, just because a record of a species does not exist in the databases does not mean it does not occur. In many cases, records may not be present in the databases because an area has not been surveyed for that species.

A desktop review of the Natural Resources Conservation Service's (NRCS') Web Soil Survey (NRCS 2019) and the corresponding USGS topographic maps was also conducted to determine if there were any blue line streams or drainages that might fall under the jurisdiction of either federal or state agencies were present within the Project Area.

3.2 Field Survey

3.2.1 Biological Reconnaissance Survey

The biological reconnaissance survey was conducted by walking the entire Project Area to determine the vegetation communities and wildlife habitats within the Project Area. The biologist documented the plant and animal species present within the Project Area, and the location and condition of the Project Area were assessed for the potential to provide habitat for special-status plant and wildlife species. Data were recorded on a Global Positioning System (GPS) unit, field notebooks, and/or maps. Photographs were also taken during the survey to provide visual representation of the various vegetation communities within the Project Area. The Project Area was also examined to assess its potential to facilitate wildlife movement or function as a movement corridor for wildlife moving throughout the region. In addition, the biologist noted the vegetation communities present on the Project Area.

Plant and wildlife species, including any special-status species that were observed during the survey, were documented. Plant nomenclature follows that of *The Jepson Manual: Vascular Plants of California* (Baldwin et al. 2012). Wildlife nomenclature follows Society for the Study of Amphibians and Reptiles (SSAR, 2018), *Check-list of North American Birds* (American Ornithologist's Union [AOU] 2016), and the *Revised Checklist of North American Mammals North of Mexico* (Bradley et al. 2014).

In instances where a special-status species was observed, the date, species, location and habitat, and GPS coordinates were recorded. The locations of special-status species observations were recorded using a handheld GPS in NAD 83, Universal Transverse Mercator coordinates, Zone 11S.

3.2.2 Preliminary Jurisdictional Delineation

A desktop review was conducted to identify potential streams and hydric soils within the Project Area. This entailed examination of the NRCS Soil Mapper (NRCS 2019), National Wetland Inventory (NWI) mapping, and the USGS topographic mapping of the Project Area to aid in identifying potential biological constraints to the Project due to jurisdictional streams. A preliminary jurisdictional delineation of the Project Area was conducted in the field. The Project Area was walked to look for signs of Ordinary High-Water Mark as defined by the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Arid West Region Supplement) (USACE 2008). The boundaries of potential Waters of the U.S. and Waters of the State were identified through aerial photograph interpretation and standard field methods including identification of water sources and examination of topography. Boundaries of potential jurisdictional areas were not formally delineated.

4.0 RESULTS

Summarized below are the results of the literature review and field surveys, including characteristics of the Project Area, vegetation communities, wildlife, special-status species, and special-status habitats (including any potential wildlife corridors).

4.1 Literature Review

The literature review and database searches resulted in records for seven special-status plant species and 15 special-status wildlife species that could occur on and/or near the Project Area.

4.1.1 Special-Status Plants and Wildlife

The literature review and database searched identified seven special-status plant species and 15 special-status wildlife species that occur near the Project Area. A list was generated from the results of the literature review and the Project Area was evaluated for suitable habitat that could support any of the special-status plant or wildlife species on the list.

4.1.2 USFWS Designated Critical Habitat

The Project Area is not located within any USFWS-designated critical habitat. The closest designated critical habitat is for vernal pool fairy shrimp (*Branchinecta lynchi*) and is located approximately 25 miles east of the Project Area.

4.1.3 Jurisdictional Drainages

The desktop review of the NRCS (2019), NWI, and the USGS topographic map did not identify any potential jurisdictional features, hydric soils, or wetlands present within the Project Area.

4.2 Biological Reconnaissance Survey

The biological reconnaissance survey was conducted on March 13, 2019, by ECORP senior wildlife biologist Phillip Wasz. Mr. Wasz has more than nine years of experience conducting surveys and habitat assessments for the special-status plant and wildlife species of the San Joaquin Valley, including burrowing owl (*Athene cunicularia*), giant kangaroo rat (*Dipodomys ingens*) and San Joaquin kit fox (*Vulpes macrotis mutica*). Mr. Wasz is also permitted to trap and handle giant kangaroo rats under the authority of a USFWS 10(a)(1)(A) endangered species recovery permit (TE-012973-11). Summarized below are the results of the biological reconnaissance survey, including characteristics of the Project Area, plant communities, wildlife, special-status species, and special-status habitats (including any potential wildlife corridors). Weather conditions during the survey are summarized in Table 1.

Table 1. Weather Conditions During the Survey

Date	Time		Temperature (˚F)		Cloud Cover (%)		Wind Speed (mph)	
	Start	end	Min	Max	min	max	min	max
3/13/19	1100	1400	45	51	50	55	5	10

4.2.1 Property Characteristics

The Project Area consists of active and fallow agricultural land. The Project Area is generally level, with an elevation of approximately 300 feet above mean sea level (amsl) along the northwestern boundary and an approximate elevation of 240 feet amsl at the eastern corner adjacent to I-5. The slope varies between one and three percent across the Project Area. The Project Area is bordered to the west by the California Aqueduct. Onsite and surrounding land uses primarily consist of active and fallow agricultural land or rangeland. The California Department of Conservation has designated approximately 45 percent of the Project Area as "Grazing Land." Approximately 50 percent of the Project Area has been designated "Prime Farmland," a classification that means active farming has occurred with the past four years and that the onsite conditions are conducive to long-term sustainable farming. Soils in the Project Area consist of Panoche loam with 0 to 2 percent slopes, Wasco sandy loam with 0 to 5 percent slopes, and Westhaven loam with 0 to 2 percent slopes (NRCS 2019). These soils are associated with the alluvial plain comprising this part of the southern San Joaquin Valley. Vegetation within the Project Area consists primarily of nonnative grasses and weeds as well as an orchard used for agricultural production. Representative photographs of the Project Area are presented in Appendix A.

4.2.2 Vegetation Communities

No native vegetation communities were present within the Project Area. The Project Area consists of active and fallow agricultural land (Figure 4. *Vegetation Communities*). The Project Area has historically been used for farming and portions of the Project Area presently contain orchards of almond and pistachio trees near the end of their productive life expectancy (Jackson Ranch 2019). The remainder of the Project Area not in agricultural production consisted of recently disced fallow agricultural land.

4.2.3 Plants

Plant species observed within the Project Area were typical of the fallow and active agricultural land present within the Project Area and for the time of the year in which the survey was conducted. The Project Area, consisting active orchard and fallow agricultural land was mostly devoid of native vegetation. Vegetation within the Project Area was mostly limited to nonnative grasses and forbs, including mustard (*Brassica nigra*), Russian thistle (*Salsola tragus*), and red-stemmed filaree (*Erodium cicutarium*). A full list of plant species observed with the Project Area is included in Appendix B.

4.2.4 Wildlife

The fallow and active agricultural land within the Project Area did not provide much habitat for native wildlife species. However, some wildlife species were observed during the survey, including common raven (*Corvus corax*), house finch (*Haemorhous mexicanus*), red-tailed hawk (*Buteo jamaicensis*), and mourning dove (*Zenaida macroura*). A complete list of wildlife species observed on or immediately adjacent to the Project Area is included in Appendix C.



Location: N:\2019\2019-039 Jackson Ranch Specific Plan\MAPS\Vegetation_and_LandCover\JR_Veg_V1.mxd *(MAG)-mguidry 4/18/2019*

Map Date: 4/18/2019
Photo Source: NAIP 2016

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Figure 4. Vegetation Communities

2019-039 Jackson Ranch Specific Plan

4.2.5 Potential for Special-Status Plant and Wildlife Species to Occur on the Project Site

The literature review and database searches identified seven special-status plant species and 15 special-status wildlife species that occur within or near the Project Area. However, due to the Project Area's long agricultural history and the current lack of suitable habitat for the special-status plant and wildlife species, some of the species are presumed absent from the Project Area.

Special-Status Plants

Although seven special-status plant species appeared in the literature search, due to the Project Area's long agricultural history and the current lack of suitable habitat for the special-status plant species identified in the literature review and database searches, all seven species are presumed to be absent from the Project Area. Plant species with a CNPS Rare Plant Rank 3 or 4 were eliminated from the analysis because these rankings are considered a review list and a watch list, respectively. Descriptions of the CNPS designations are found in Table 2 and a list of the seven special-status plant species identified in the literature review is presented below.

Table 2. CNPS Status Designations

List Designation	Meaning
1A	Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
1B	Plants Rare, Threatened, or Endangered in California and Elsewhere
2A	Plants Presumed Extirpated in California, But Common Elsewhere
2B	Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
3	Plants about which we need more information; a review list
4	Plants of limited distribution; a watch list
List 1B, 2, and 4 extension meanings:	
.1	Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2	Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

Note: According to CNPS (Skinner and Pavlik 1994), plants on Lists 1B and 2 meet definitions for listing as threatened or endangered under Section 1901, Chapter 10 of the California FGC (CDFG 1984). This interpretation is inconsistent with other definitions.

Plant Species Presumed Absent

The following species are presumed absent from the Project Area due to the lack of suitable habitat, soil type, and/or elevation range at the Project Area:

- Lost Hills crownscale (A*triplex coronata* var. *vallicola*) CNPS 1B.2
- California jewelflower (*Caulanthus californicus*) federally listed (endangered) and state-listed (endangered) and CNPS 1B.1
- Lemmon's jewelflower (*Caulanthus lemmonii*) CNPS 1B.2

- Recurved larkspur (*Delphinium recurvatum*) CNPS 1B.2
- Kern mallow (*Eremalche parryi* ssp. *kernensis*) federally listed (endangered) and CNPS 1B.2
- San Joaquin woollythreads (*Monolopia congdonii*) federally listed (endangered) and CNPS 1B.2
- King's gold (*Tropidocarpum californicum*) CNPS 1B.1

Special-Status Wildlife

Of the 15 special-status wildlife species identified in the literature review, two were found to have a high potential to occur, three were found to have a moderate potential to occur, two were found to have a low potential to occur, and eight species were presumed absent from the Project Area.

Wildlife Species with a High Potential to Occur

The following species have a high potential to occur within the Project Area due to the presence of suitable habitat (including soils and elevation factors) for the species occurring within the Project Area and a known occurrence that has been recorded within five miles of the Project Area:

Burrowing owl

The burrowing owl is a CDFW SSC (CDFW 2019b). This species is typically found in dry open areas with few trees and short grasses; it can also be found in vacant lots near human habitation. It uses uninhabited mammal burrows for roosts and nests. It primarily feeds on large insects and small mammals but will also eat birds and small reptiles. The Project Area contains suitable open habitat within the fallow agriculture fields and along the edges of the orchards. The soils within the Project Area are also suitable for burrowing, and California ground squirrels (*Otospermophilus beecheyi*), for which burrowing owls sometimes rely for burrows, were observed on and adjacent to the Project Area. The Project Area also contains suitable foraging habitat for burrowing owl, because the fallow and active agriculture likely supports a robust insect population and the nonnative grassland habitat adjacent to the Project Area along the aqueduct likely supports an adequate number of small mammals and insects that make up most of the burrowing owls' prey base. Two burrowing owl records were identified within five miles of the Project Area, with the closest of these observations being documented in 2001 approximately two miles northeast of the Project Area (CDFW 2019a). Due to the presence of suitable burrowing and foraging habitat and the recorded observations within five miles of the Project Area, this species has a high potential to occur within the Project Area.

San Joaquin Kit Fox

The San Joaquin kit fox is a federally-listed endangered and state-listed threatened species (CDFW 2019b). This species prefers annual grasslands or open grassy areas with scattered shrubs and requires loose soils for digging burrows (USFWS 1998). This species is found scattered throughout the San Joaquin Valley, and individuals have been known to occasionally use agricultural land and other areas of marginal habitat adjacent to high-quality habitat for foraging or movement to other areas of their territory. The Project Area, consisting partially of fallow agriculture land, contains soft soils suitable for denning and the nonnative grassland habitat adjacent to the Project Area along the aqueduct likely supports an adequate prey base of small mammals for foraging. The Project Area itself, consisting of orchards and fallow

(recently tilled) agriculture land supports marginally suitable foraging and denning habitat. The Project Area was fenced with four-strand barbed wire along western border but was still easily accessible to kit fox making it suitable as movement habitat for kit foxes that may be moving through the area. The literature review identified nine records of the species within five miles of the Project Area (CDFW 2019a). However, all but two of those records were considered historical (more than 20 years old), with the closest record being identified in 1981 approximately 0.6 mile south of the Project Area. The most recent record was from 2001 and was located approximately 4.7 miles west of the Project Area. Due to the presence of suitable denning, foraging, and movement habitat and the recorded observations within five miles of the Project Area, this species has a high potential to occur on the Project Area.

Wildlife Species with a Moderate Potential to Occur

The following species have a moderate potential to occur within the Project Area because either habitat for the species occurs within the Project Area and a known occurrence has been reported in the database, but not within five miles of the Project Area, or a known occurrence within five miles of the Project Area and marginal or limited amounts of habitat occurs within the Project Area:

San Joaquin (Nelson's) Antelope Squirrel (Ammospermophilus nelsoni)

The San Joaquin antelope squirrel is a state-listed threatened species (CDFW 2019b). This species is typically found in grassland and shrubland communities, but they are most prevalent in habitats with sparse to moderate shrub cover and are most often found in saltbush scrub communities (USFWS 1998). The Project Area, consisting of fallow and active agricultural land, does not represent suitable habitat for San Joaquin antelope squirrel, but the grassland habitat adjacent to the Project Area along the aqueduct was suitable for the species. Additionally, numerous small mammal burrows of the appropriate size for San Joaquin antelope squirrel were observed within the grassland habitat and along the road that runs along the southwest border of the Project Area. Two historical (more than 20 years old) records of this species occurring within five miles of the Project Area were identified during the literature review (CDFW 2019a). The closest record was identified in 1951 approximately 3.5 miles north of the Project Area. The second record was identified in 1991 approximately 4.6 miles south of the Project Area. Although no suitable habitat is present within the Project Area, the grassland habitat adjacent to the Project Area is considered suitable for the species and numerous small mammal burrows were observed within the adjacent habitat. If the San Joaquin antelope squirrels are present within this adjacent suitable habitat then it is possible that they could venture onto the Project Area while foraging or moving about their home range. Therefore, this species was assigned a moderate potential to occur within the Project Area.

Loggerhead shrike (Lanius ludovicianus)

The loggerhead shrike is a CDFW SSC (CDFW 2019b). It prefers open areas with scattered trees and shrubs including desert scrub, grasslands, and open woodland habitats. Its diet includes large insects and other invertebrates, but it will also prey upon small mammals, lizards, and snakes. Suitable foraging habitat is present throughout the Project Area and suitable nesting habitat is present within the orchards onsite; however, no records of the species were identified within five miles of the Project Area (CDFW 2019a). Therefore, this species has a moderate potential to occur within the Project Area.

American badger (Taxidea taxus)

The American badger is a CDFW SSC (CDFW 2019b). This territorial mammal species prefers habitat that includes dry open areas consisting of shrubs, grasslands, forest, and herbaceous habitats, with loose soils for digging burrows (NatureServe 2019). This species is found scattered throughout the San Joaquin Valley, and individuals have been known to occasionally use agricultural land and other areas of marginal habitat adjacent to high-quality habitat for foraging or movement to other areas of their territory. The Project Area, consisting partially of fallow agriculture land, contains soft soils suitable for denning and the nonnative grassland habitat adjacent to the Project Area along the aqueduct likely supports an adequate prey base of small mammals for foraging. No records of this species were identified within five miles of the Project Area but the presence of suitable habitat and the fact that this species can move long distances, results in a moderate potential for occurrence for this species.

Wildlife Species with a Low Potential to Occur

The following species have a low potential to occur within the Project Area because limited habitat for the species occurs within the Project Area and a known occurrence has been reported in the database, but not within five miles of the Project Area, or suitable habitat strongly associated with the species occurs within the Project Area, but no records were found in the database search:

Tricolored blackbird (Agelaius tricolor)

The tricolored blackbird is a CDFW SSC and California candidate species for listing as endangered (CDFW 2019b). Breeding habitat for this species includes wet and dry vernal pools, seasonal wetlands, and freshwater mashes with cattails, bulrush, and sedges. Nests are typically found in vegetation of mashes or thickets. This species feeds on insects and seeds and can utilize a variety of foraging habitats, including grasslands and agricultural land. Three records of this species occurring within five miles of the Project Area were identified during the literature review (CDFW 2019a). The closest record was identified in 2014 approximately 4.2 miles southeast of the Project Area. No suitable nesting habitat was identified within the Project Area, but marginally suitable foraging habitat is present. Although three records of this species were identified within five miles of the Project Area, due to the lack of suitable nesting habitat within and adjacent to the Project Area, this species has been assigned a low potential to occur within the Project Area while foraging and is not expected to nest within the Project Area.

San Joaquin coachwhip (Masticophis flagellum ruddocki)

The San Joaquin whipsnake is a CDFW SSC (CDFW 2019b). This species occurs in open, dry, treeless areas, including grassland and valley saltbush scrub (Stebbins 2003). The Project Area, consisting of fallow and active agriculture, did not represent suitable habitat for this species. Two records of this species were identified within five miles of the Project Area. The closest recorded observation of this species was identified in 2007 approximately 4.6 miles west of the Project Area (CDFW 2019a). Although no suitable habitat is present within the Project Area, the grassland habitat adjacent to the Project Area was considered suitable and if the species was present within this adjacent suitable habitat then it is possible that it could venture onto the Project Area while foraging or moving about its home range. Therefore, this species was assigned a low potential to occur within the Project Area.

Special-Status Wildlife Species Presumed Absent

The following species are presumed absent from the Project due to the lack of suitable habitat on or adjacent to the Project Area:

Swainson's hawk (Buteo swainsoni)

The Swainson's hawk is a state-listed threatened species (CDFW 2019a). This species prefers habitat with solitary trees for nesting and large, flat, open grasslands or agricultural land for foraging. It preys primarily on rodents and grasshoppers (NatureServe 2019). No Swainson's hawk records were identified within five miles of the Project Area. The active orchard on the Project Area does not represent suitable nesting habitat and the fallow agriculture land, mostly devoid of vegetation and frequently disked, did not support an adequate prey base to be considered suitable foraging habitat. Due to the lack of suitable nesting and foraging habitat and absence of records of this species near the Project Area, this species has been presumed absent from the Project Area.

Western snowy plover (Charadrius alexandrines nivosus)

The western snowy plover is a CDFW SSC and federally listed threatened species (CDFW 2019a). This shore bird typically occurs in habitat that includes beaches, dry mud or salt flats, and sandy shores of rivers, lakes, and ponds (NatureServe 2019). No suitable habitat for this species was identified within the Project Area. Therefore, this species is presumed absent from the Project Area.

Giant Kangaroo Rat (Dipodomys ingens)

The giant kangaroo rat is a federally and state-listed endangered species (CDFW 2019b). This species inhabits low growing grassland and shrub communities on a variety of soil types (USFWS 1998). Giant kangaroo rats rely on their senses and speed to avoid predators and typically prefer areas with bare ground or low growing vegetation. Areas of tall and dense vegetation can be problematic for giant kangaroo rat and reduce their ability to spot and evade predators. Therefore, giant kangaroo rats typically do not occupy areas with tall and dense vegetation. The Project Area, consisting active and fallow agriculture land was not suitable for the species and the grassland habitat adjacent to the Project Area was too dense to support giant kangaroo rats. Additionally, no precincts were observed within the grassland habitat adjacent to the Project Area. Two historical records of this species occurring within five miles of the Project Area were identified during the literature review and database search (CDFW 2019a). The closest record was identified in 1979 approximately 4.0 miles south of the Project Area, while the other record was identified in 1985 approximately 4.9 miles south of the Project Area in the Kettleman Hills. Due to the lack of suitable habitat on and adjacent to the Project Area this species is presumed absent from the Project Area.

Short-nosed kangaroo rat (Dipodomys nitratoides brevinasus)

The short-nosed kangaroo rat is a CDFW SSC (CDFW 2019b). This species generally inhabits flat to gently sloping terrain and is typically associated with desert shrub habitats, and often associates with saltbush scrub (USFWS 1998). The Project Area, consisting of active and fallow agriculture completely devoid of shrubs, does not represent suitable habitat for short-nosed kangaroo rat. Additionally, no records of this species were identified within five miles of the Project Area. Due to the lack of records for this species

within five miles of the Project Area and the lack suitable habitat on and adjacent to the Project Area due to the absence of shrub, this species was presumed absent.

Tipton kangaroo rat (Dipodomys nitratoides nitratoides)

The Tipton kangaroo rat is a federally and state-listed endangered species (CDFW 2019b). This species is typically found in alluvial fan and floodplain soils with sparsely vegetated woody shrub cover. Woody shrubs that are commonly associated with Tipton kangaroo rat include *Atriplex* spp., iodine bush (*Allenrolfea occidentalis*), and pale-leaf goldenbush (*Ericameria linearifolia*) (NatureServe 2019). Although Tipton kangaroo rats can occur in terrace grasslands devoid of woody shrubs, sparse-to-moderate shrub cover is usually associated with populations of high density (USFWS 1998). The Project Area, consisting of active and fallow agriculture completely devoid of shrubs, does not represented suitable habitat for Tipton kangaroo rat. Two historical records of this species occurring within five miles of the Project Area were identified during the literature review and database search (CDFW 2019a). The closest record was identified in 1951 approximately 1.3 miles west of the Project Area, while the other record was also identified in 1951 approximately 4.5 miles northwest of the Project Area. Due to the lack of suitable habitat on and adjacent to the Project Area due to the absence of shrub, this species was presumed absent.

Blunt-nosed leopard lizard (Gambelia sila)

The blunt-nosed leopard lizard is a CDFW Fully Protected species and is federally and state-listed as endangered (CDFW 2019a). This species is found in open, sparsely vegetated areas and is often associated with valley saltbush scrub and grassland habitats (USFWS 1998). Blunt-nosed leopard lizards rely on their speed to avoid predators and typically prefer areas with bare ground or low growing vegetation. The Project Area, consisting of active and fallow agriculture, did not contain suitable for the species. Additionally, the grassland habitat adjacent to the Project Area may have represented suitable habitat in the past, but at the time of the survey was too dense to support blunt-nosed leopard lizards, likely a result of abundant winter rainfall that the San Joaquin Valley received this year. Ten records of this species were identified in the database search within five miles of the Project Area. The closest documented record is part of a small polygon from 1975 centered around the I-5 on- and off-ramps at Utica Avenue. The polygon slightly overlaps with the northeast corner of the Project Area, but due to the lack of suitable habitat and high level of disturbance associated with the on- and off-ramps, it is unlikely that blunt-nosed leopard lizard associated with the polygon are still present. It is unknown if blunt-nosed leopard lizards associated with the polygon were observed on the actual Project Area. Most of the remaining species records are west of the aqueduct within the Kettleman Hills (CDFW 2019a). Although this species has been identified near the Project Area, due to the lack of quality low growing grass and forb habitat on and adjacent to the Project Area, this species has been presumed absent from the Project Area.

Tulare grasshopper mouse (Onychomys torridus tularensis)

Tulare grasshopper mouse is a CDFW SSC (CDFW 2017b). This species is typically found in habitat that contains scattered shrubs with annual grass and forbs and is most often found in saltbush scrub communities (USFWS 1998). The Project Area, consisting of fallow and active agriculture completely devoid of shrubs, would not be considered suitable habitat for this species. Additionally, the database search did not identify any records of this species within five miles of the Project Area. No suitable shrub

habitat for this species was identified on or immediately adjacent to the Project Area. Therefore, this species is presumed absent from the Project Area.

Western Spadefoot Toad (Spea hammondii)

The western spadefoot toad is a CDFW SSC (CDFW 2019b). This species is found in low densities within the San Joaquin Valley. The western spadefoot toad occurs primarily in grassland habitats but can occupy habitat that includes open areas with sandy or gravelly soils within mixed woodlands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alkali flats, and foothills. This species requires standing water for more than 30 days that does not contain bullfrogs, fish, or crayfish (NatureServe 2019). The Project Area, consisting of fallow and active agriculture, would not be considered suitable habitat for this species. Additionally, the literature search did not identify and records of the species within five miles of the Project Area. Therefore, this species was presumed absent from the Project Area.

4.2.6 Potentially Jurisdictional Drainages

Although a formal jurisdictional delineation was not conducted, no jurisdictional drainages, stream courses, and/or other water features were identified within the Project Area at the time of the reconnaissance survey. No hydric soils or riparian vegetation were observed within the Project Area boundaries.

4.2.7 Raptors and Migratory Birds

Potential nesting habitat for migratory birds and raptors protected by the MBTA and California Fish and Game Code was present within the orchard and vegetation suitable for nesting birds was also observed immediately adjacent to the Project Area and construction of the Project could indirectly affect nesting birds. Raptors typically breed between February and August, and songbirds and other passerines generally nest between March and August.

4.2.8 Wildlife Movement Corridors, Linkages, and Significant Ecological Areas

The concept of habitat corridors addresses the linkage between large blocks of habitat that allow the safe movement of mammals and other wildlife species from one habitat area to another. The definition of a corridor varies, but corridors may include such areas as greenbelts, refuge systems, underpasses, and biogeographic land bridges. In general, a corridor is described as a linear habitat, embedded in a dissimilar matrix, which connects two or more large blocks of habitat. Wildlife movement corridors are critical for the survivorship of ecological systems for several reasons. Corridors can connect water, food, and cover sources, spatially linking these three resources with wildlife in different areas. In addition, wildlife movement between habitat areas provides for the potential of genetic exchange between wildlife species populations, thereby maintaining genetic variability and adaptability to maximize the success of wildlife responses to changing environmental conditions. This is especially critical for small populations subject to loss of variability from genetic drift and effects of inbreeding. The nature of corridor usage and wildlife movement patterns vary greatly among species.

The Project Area was assessed for its ability to function as a wildlife corridor. The Project Area, consisting of active and fallow agriculture, was very disturbed. Additionally, the Project Area, the areas of fallow agriculture were devoid of vegetative cover, very exposed, and did not contain any features that typically

are associated with facilitating wildlife movement, (i.e., drainages, riverbeds). Therefore, the Project Area would not be considered a linkage or corridor between conserved natural habitat areas.

5.0 IMPACT ANALYSIS

5.1 Special-Status Species

The Project Area, consisting of active and fallow agriculture, was very disturbed and large portions of the Project Area were completely devoid of vegetation. The literature review and database searches identified seven special-status plant species that could occur in the area of the Project Area but due to the Project Area's long agricultural history, which has included frequent discing and disturbance, and the current lack of suitable habitat for special-status plant species on Project Area, all of the special-status plant species identified in the literature review were presumed absent from the Project Area. The removal and replacement of the active and fallow agriculture land within the Project Area will not contribute to the overall decline of any of the plant species identified in the literature review and database searches and no impacts to special-status plant species are anticipated to result from the development of this Project.

The literature review and database searches identified 15 special-status wildlife species that occur near the Project Area, but based on the disturbed nature of the Project Area, the Project Area's long agricultural history, and the current lack of suitable habitat for special-status wildlife species within the Project Area, eight of the special-status wildlife species identified in the literature review and database searches were presumed absent from the Project Area. The remaining eight special-status wildlife species have varying levels of potential to occur within the Project Area based on the presence of suitable habitat on, or immediately adjacent, to the Project Area and documented observations of the species near the Project Area. Mitigation measures (MMs), including focused surveys, preconstruction surveys, and/or construction monitoring, are required to ensure that Project related impacts to these eight special-status wildlife species are less than significant.

Burrowing owls were determined to have a high potential to occur within the Project Area due to the presence of suitable burrowing and foraging habitat and recorded observations within five miles of the Project Area. Although burrowing owls were not observed during the reconnaissance survey, the species is mobile and could take up residence at any time. Burrowing owls are a CDFW SSC but are also protected by the MBTA and California Fish and Game Code. Direct impacts to burrowing owl could occur by mortality and habitat loss during ground disturbance and indirect impacts could occur from construction noise, construction vibrations, increased human activity, and increased light pollution. Implementation of MM BIO-1 will reduce impacts to a level that is less than significant.

San Joaquin kit fox and American Badger were determined to have a high and moderate potentials to occur within the Project Area, respectively, due to the presence of suitable habitat and documented observations within five miles of the Project Area. San Joaquin kit fox is a federally listed endangered and state-listed threatened species and American badger is a CDFW SSC. Although no San Joaquin kit fox or San Joaquin kit fox dens were observed during the reconnaissance survey, the species is mobile and could take up residence at any time. Direct impacts to San Joaquin kit fox and American badger could occur by mortality and habitat loss during ground disturbance and indirect impacts could occur from construction noise, construction vibrations, increased human activity, and increased light pollution. Implementation of MMs BIO-2 and BIO-3 will reduce impacts to a level that is less than significant.

San Joaquin antelope squirrel was determined to have a moderate potential to occur within the Project Area along the southern half of the western border of the Project Area, which is adjacent to suitable grassland habitat. The majority of the Project Area, consisting of active and fallow agriculture, did not represent suitable habitat for the species, but the grassland habitat adjacent to the southern half of the western border of the Project Area was suitable for the species and numerous small mammal burrows of the appropriate size for San Joaquin antelope squirrel were observed within the grassland habitat and along the road that runs along the southwest border of the Project Area. If the San Joaquin antelope squirrels are present within this adjacent suitable habitat then it is possible that they could venture onto the Project Area while foraging or moving about their home range. The portion of the Project Area that is immediately adjacent to the grassland habitat along the western border of the Project Area is to retain the existing Specialty Agriculture (A-JR) and Specialty Agriculture with Air Strip Overlap (A-JR) General Plan designation. The uses permitted within this area include cultivated land as well as support uses such as farm-based tourism, agricultural research and processing, wineries, and farmer's markets. Other uses include recreational vehicle and boat parking and storage and utility uses such as solar farms are also allowed with a CUP. If this area remains as active or fallow agriculture the Project will not affect San Joaquin antelope squirrel. If the agricultural land adjacent to the grassland habitat along the southern half of the western border (Figure 3; P-25 and P-26) is developed or used for anything other than active or fallow agriculture, then impacts to San Joaquin antelope squirrel could occur. Direct impacts to San Joaquin antelope squirrel could occur by mortality and habitat loss during ground disturbance and indirect impacts could occur from construction noise, construction vibrations, and increased human activity. Implementation of MM BIO-4 will reduce impacts to a level that is less than significant.

Loggerhead shrike, tricolored blackbird, and other migratory bird species protected under the MBTA and California Fish and Game Code are expected to occur within the Project Area due to the presence of suitable nesting habitat within the orchards within the Project Area. Direct impacts to loggerhead shrike, tricolored blackbird, and other migratory bird species and their nests could occur through mortality and habitat loss during ground disturbance and indirect impacts could occur from construction noise, construction vibrations, and increased light pollution. Implementation of MM BIO-4 will reduce impacts to a level that is less than significant.

San Joaquin coachwhip was determined to have a low potential to occur within the Project Area. Although no suitable habitat was present within the Project Area, the grassland habitat adjacent to the Project Area along the southern half of the western border was considered suitable and if the species was present within this adjacent suitable habitat, it is possible that it could venture onto the Project Area while foraging or moving about its home range. However, due to the disturbed nature of the Project Area and the lack of quality habitat, if this species occurs within the Project Area it is likely to occur only in very low density and loss of those animals would not be enough to result in a significant impact. Therefore, no focused surveys or mitigation measures are recommended and impacts to this species are considered less than significant.

5.2 Sensitive Natural Communities

The Project Area is heavily disturbed and consists of active and fallow agriculture. In general, the Project Area supports mostly nonnative grass and forb species. The Project Area does not contain any riparian

habitat or sensitive natural communities that would need to be preserved and no Project-related impacts to these types of resources are anticipated with the development of the Project.

5.3 State or Federally Protected Wetlands and Waters of the United States

The Project Area does not contain any state or federally protected wetlands or Waters of the United States. As currently designed, the development of the Project Area will not result in impacts to state or federally protected wetlands or Waters of the U.S.

5.4 Wildlife Corridors and Nursery Sites

The Project Area is located within and adjacent to areas containing existing disturbances (e.g., paved roads and active agriculture, and industrial developments). The Project Area is contained with very little cover that would only allow for movement of wildlife. No migratory wildlife corridors or native wildlife nursery sites were identified within the Project Area. Therefore, no impacts to wildlife corridors or nursery sites are expected to occur during the development of the Project Area.

5.5 Habitat Conservation Plans and Natural Community Conservation Plans

The Project Area is not located within an HCP or NCCP. Therefore, development of the Project Area will not conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional or state HCP.

6.0 RECOMMENDATIONS

The following mitigation measures are recommended prior to Project implementation:

BIO-1 – Preconstruction Surveys for Burrowing Owl: The Project Area was determined to be suitable for burrowing owl. Prior to development of the Project Area, preconstruction surveys for burrowing owl shall be conducted by a qualified biologist to ensure potential impacts to burrowing owl resulting from Project implementation will be avoided and minimized to less-than-significant levels:

a) A qualified wildlife biologist (i.e., a wildlife biologist with previous burrowing owl survey experience) shall conduct preconstruction surveys of the permanent and temporary impacts areas, plus a 150-meter (approximately 492-foot) buffer, to locate active breeding or wintering burrowing owl burrows no less than 14 days prior to construction. The survey methodology will be consistent with the methods outlined in the staff report and will consist of walking parallel transects 7 - 20 meters apart, adjusting for vegetation height and density as needed, and noting any potential burrows with fresh burrowing owl sign or presence of burrowing. As each burrow is investigated, biologists will also look for signs of American badger and kit fox. Copies of the survey results shall be submitted to the CDFW and Kern County Planning and Natural Resources Department.

b) A qualified biologist shall conduct an additional preconstruction survey of all impact areas plus an approximately 492-foot buffer no more than 24-hours prior to start or restart (as the case may be) of ground-disturbing activities associated with construction activities as authorized by this approval to identify any additional

burrowing owls or burrows necessitating avoidance, minimization, or mitigation measures.

c) If burrowing owls are detected, no ground-disturbing activities, such as road construction or ancillary facilities construction, shall be permitted within the distances listed in the CDFW Staff Report on Burrowing Owl Mitigation, unless otherwise authorized by CDFW. Burrowing owls shall not be moved or excluded from burrows during the breeding season.

d) If any burrowing owl burrows are observed during the preconstruction survey, avoidance measures shall be consistent with those included in the CDFW staff report on burrowing owl mitigation (CDFG 2012). If avoidance of active burrows is infeasible, the owls may, in consultation with CDFW be passively displaced from their burrows according to recommendations made in the 2012 Staff Report on Burrowing Owl Mitigation.

BIO-2 – Preconstruction Survey for San Joaquin Kit Fox and American Badger: The Project Area was determined to be suitable for San Joaquin kit fox and American badger. Prior to development of the Project Area, preconstruction surveys for San Joaquin kit fox and American Badger shall be conducted by a qualified biologist to ensure potential impacts to burrowing owl resulting from Project implementation will be avoided and minimized to less-than-significant levels. The Survey shall follow the USFWS's *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFWS 2011). If any evidence of occupation of that portion of the Project Area by San Joaquin kit fox or American badger is observed, a buffer shall be established by a qualified biologist that results in sufficient avoidance to comply with applicable regulations. If sufficient avoidance cannot be established, the USFWS and CDFW shall be contacted for further guidance and consultation on additional measures. The Project proponent shall obtain any required permits from the appropriate wildlife agency.

The following buffer distances shall be established prior to commencement of any preparation or the Project Area and/or construction activities:

a) San Joaquin kit fox or American badger potential den: 50 feet;
b) San Joaquin kit fox or American badger known den: 100 feet;
c) San Joaquin kit fox or American badger pupping den: contact the USFWS and CDFW

BIO-3 – San Joaquin Kit Fox Avoidance Measures: Prior to and during construction activities, the Project proponent shall ensure that the Project complies with the following measures to avoid impacts to San Joaquin kit fox:

a) All pipes, culverts, or similar structures with a diameter of four inches or more that are stored within the Project Area for one or more overnight periods shall be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe shall not be moved until the USFWS has been consulted. If necessary, under the

direct supervision of the biologist, the pipe may be moved once to remove it from the path of construction activity until the fox has escaped.

b) If any San Joaquin kit fox dens are found during preconstruction surveys, the status of the dens shall be evaluated no more than 14 days prior to Project ground disturbance. Provided that no evidence of kit fox occupation is observed, potential dens shall be marked, and a 50-foot avoidance buffer delineated using stakes and flagging or other similar material to prevent inadvertent damage to the potential den. If a potential den cannot be avoided, it may be hand-excavated following USFWS *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* by the lead biologist (USFWS 2011). If kit fox activity is observed at a den, the den status shall change to "known" per USFWS Guidelines (USFWS 2011), and the buffer distance shall be increased to 100 feet. Absolutely no excavation of San Joaquin kit fox known, or pupping dens shall occur without prior authorization from the USFWS and CDFW.

c) To enable kit foxes and other wildlife (e.g., American badger) to pass through the Project Area during construction, the perimeter security fence shall leave a five-inch opening between the fence mesh and the ground or the fence shall be raised five inches above the ground. The bottom of the fence fabric shall be knuckled (wrapped back to form a smooth edge) to protect wildlife that passes under the fence.

d) To prevent inadvertent entrapment of San Joaquin kit foxes, badgers, or other animals during construction, all excavated, steep-walled holes or trenches more than two feet deep shall be covered with plywood or similar materials at the close of each working day or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped animals. If trapped animals are observed, escape ramps or structures shall be installed immediately to allow escape. If listed species are trapped, the USFWS and CDFW shall be contacted.

e) Project-related vehicles shall observe a 15-mile-per-hour speed limit in all Project areas, except on County roads and federal and state highways. Construction after sundown shall be prohibited. Off-road traffic outside of designated Project areas shall be prohibited.

f) All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in closed containers and removed at least once a week from construction or Project Area.

g) No pets shall be allowed in Project areas, except for trained canine animals related to security and operation of the facility.

h) All uses of such herbicidal and rodenticide compounds shall observe label and other restrictions mandated by the USEPA, California Department of Food and Agriculture, and federal and State legislation as well as additional Project-related restrictions deemed necessary by the CDFW and/or the USFWS.

i) No plants or wildlife shall be collected, taken, or removed from the construction areas or areas of off-site improvements, except as necessary for Project-related vegetation removal or wildlife relocation. Salvage of native vegetation to be removed from

construction areas is encouraged but shall only be performed by qualified biologists and with written approval from the CDFW.

BIO-4 – Focused Survey for San Joaquin Antelope Squirrel: San Joaquin antelope squirrel may be present within the southern half of the Project Area, along the western border and within areas adjacent to the grassland habitat located along the aqueduct (Figure 3; P-25 and P-26). Prior to development of the land adjacent to the grassland habitat (P-25 and P-26), focused surveys for San Joaquin antelope squirrel should be conducted according to the CDFW *Region 4 Approved Survey Methodologies for Sensitive Species*. Surveys for San Joaquin antelope squirrel should be conducted using daytime line transects at 10- to 30-meter (30- to 100-foot) intervals so that the area is covered in a systematic manner. While walking the transects, the observer should scan the area (including using binoculars) looking for the species and listening for the species vocalizations. Transect surveys should be conducted only when air temperatures are between 20-30˚ C (68˚ -86˚F). These parameters should be checked before beginning each transect. Visual and audible observations of San Joaquin antelope squirrel should be recorded and mapped along with the location of suitable burrows. Representative burrows should be photographed. Surveys for San Joaquin antelope squirrel should coincide with their most active season, April 1 to September 30. Less active times of year are associated with low temperatures. Surveys conducted outside of these parameters which confirm the presence of the species will also be accepted. If San Joaquin antelope squirrels are determined to be present on or immediately adjacent to the Project Area, the Project proponent shall consult with CDFW to determine appropriate avoidance measures, which could include but is not limited to installing small mammal exclusion fencing, biological monitoring, and/or burrow excavation.

BIO-5 – Pre-construction Nesting Bird Survey: If construction or other Project activities are scheduled to occur during the bird breeding season (February through August for raptors and March through August for the majority of migratory bird species), a pre-construction nesting bird survey shall be conducted by a qualified biologist to ensure that active bird nests, including those for the loggerhead shrike, will not be disturbed or destroyed. The survey shall be completed no more than 14 days prior to initial ground disturbance. The nesting bird survey shall include the Project Area and adjacent areas where Project activities have the potential to affect active nests, either directly or indirectly due to construction activity or noise. If an active nest is identified, a qualified biologist shall establish an appropriate disturbance limit buffer around the nest using flagging or staking. Construction activities shall not occur within any disturbance limit buffer zones until the nest is deemed inactive by the qualified biologist.

7.0 CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief. Field work conducted for this assessment was performed by me or under my direct supervision. I certify that I have not signed a non-disclosure or consultant confidentiality agreement with the Project applicant or the applicant's representative and that I have no financial interest in the Project.

SIGNED: _____ DATE: June 10, 2019

Phillip Wasz
Senior Wildlife Biologist
ECORP Consulting, Inc.

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Appendix A –Representative Project Site Photographs

Appendix B - Plant Species Compendium

Appendix C - Wildlife Species Compendium



Photo 1: Representative photo of the active agriculture (orchard) with Project Area.



Photo 2: Representative photo of the fallow (recently disked) agriculture within Project Area.



Photo 3: Representative photo of the fallow (recently disked) agriculture within Project Area.



Photo 3: Representative photo of the fallow (recently disked) agriculture within Project Area.



Photo 4: Representative photo of the fallow (recently disked) agriculture within Project Area.



Photo 4: Representative photo of the grassland habitat adjacent to the Project Area along the southern half of the western border.

SCIENTIFIC NAME	COMMON NAME
Amsinckia menziesii	fiddleneck
Brassica nigra	mustard
Bromus tectorum	cheatgrass
Bromus madritensis	red brome
Lupinus sp.	lupine
Pistacia vera	pistachio
Prunus sp.	almond
Salsola australis	Russian thistle
Triticum sp.	wheat

SCIENTIFIC NAME	COMMON NAME
Buteo jamaicensis	red-tailed hawk
Calypte anna	Anna's hummingbird
Charadrius vociferus	killdeer
Corvus corax	common raven
Haemorhous mexicanus	house finch
Mimus polyglottos	northern mockingbird
Sayornis nigricans	black phoebe
Streptopelia decaocto	Eurasian collared dove
Sturnella neglecta	western meadowlark
Sturnus vulgaris	European starling
Zenaida macroura	mourning dove

Appendix E Paleontological Resources Results

Appendices

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Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007

tel 213.763.DINO
www.nhm.org

NATURAL HISTORY MUSEUM
LOS ANGELES COUNTY

Vertebrate Paleontology Section
Telephone: (213) 763-3325

e-mail: smcleod@nhm.org

21 March 2019

ECORP Consulting, Inc.
215 North Fifth Street
Redlands, CA 92374

Attn: Wendy Blumel, Assistant Cultural Group Manager

re: Paleontological resources for the proposed Jackson Ranch Specific Plan Project, ECORP Project # 2018-039, near Kettleman City, Kings County, project area

Dear Wendy:

I have conducted a thorough search of our paleontology collection records for the locality and specimen data for the proposed Jackson Ranch Specific Plan Project, ECORP Project # 2018-039, near Kettleman City, Kings County, project area as outlined on the portion of the Los Viejos USGS topographic quadrangle map that you sent to me via e-mail on 7 March 2019. We do not have any vertebrate fossil localities that lie directly within the proposed project area, but we do have localities farther afield from sedimentary deposits similar to those that may occur subsurface in the proposed project area.

Surface deposits in the entire proposed project area consist of younger Quaternary Alluvium, derived as alluvial fan deposits from the Middle Dome of the Kettleman Hills immediately to the west. We have no fossil vertebrate localities nearby from these types of deposits and they are unlikely to contain significant vertebrate fossils, at least in the uppermost layers, but they may be underlain at relatively shallow depth by older Quaternary deposits that do contain significant fossil vertebrate remains. Our closest vertebrate fossil localities from similar Quaternary Alluvium deposits are LACM 7844 and 7845, situated southwest of the proposed project area between Antelope Valley and Polonio Pass, that produced fossil specimens of common snakes, Colubridae, iguana lizards, Iguanidae, birds, Aves, jackrabbit, *Lepus*, cottontail, *Sylvilagus*, squirrels, Sciuridae, pocket gopher, *Thomomys*, pocket mouse, *Perognathus*,

kangaroo rat, *Dipodomys*, and deer, *Odocoileus*. Our next closest vertebrate fossil locality from these deposits is LACM 1156, east-southeast of the proposed project area just north of Delano, that produced a fossil specimen of horse, *Equus*, from a depth of 45 feet below the surface in a well core.

Immediate to the west of the proposed project area there are exposures of the Plio-Pleistocene Tulare Formation, marine late Miocene Etchegoin Formation on South Dome, and this rock unit may also underlie the younger Quaternary deposits in the proposed project area. Our closest vertebrate fossil locality from the Tulare Formation is LACM 5458, situated due south of the proposed project area near Arroyo Recodo of the Middle Dome of the Kettleman Hills. A fossil specimen of woodrat, *Neotoma*, was collection at locality LACM 5458.

Shallow excavations in the younger Quaternary alluvial fan deposits exposed throughout the proposed project area are unlikely to produce significant vertebrate fossils. Deeper excavations that extend down into older Quaternary deposits or deposits of the Tulare Formation, however, may well encounter significant fossil vertebrate remains. Any substantial excavations in the proposed project area, therefore, should be monitored closely to quickly and professionally recover any fossil remains discovered while not impeding development. Also, sediment samples should be collected and processed to determine the small fossil potential in the proposed project area. Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.

This records search covers only the vertebrate paleontology records of the Natural History Museum of Los Angeles County. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey.

Sincerely,

Samuel A. McLeod

Samuel A. McLeod, Ph.D.
Vertebrate Paleontology

enclosure: invoice

Appendix F Service Provider Questionnaire Responses

Appendices

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1. Please **confirm or update** the following information for Kings County Fire Department.

Stations, Staff, and Apparatus

a. The nearest (first- and second-in) fire stations to the project site are Stations 9 and 12. Please provide the equipment and staffing information for each of the stations in the following table.

Kings County Fire Department Stations

Station No.	Location	Apparatus (Number and Type of Emergency Vehicles)	Daily Staffing (Number and Type of Personnel)
Station 9	85 Brown Street, B Kettleman City, CA 93239	Type 1 Engine	3 paid
Station 12	516 Fresno Street Avenal, CA 93204	Type 1 Engine	2 Paid

Performance Standards

b. Please provide Kings County Fire Department's response time goals in the following table. Please feel free to revises the activity/incident types as necessary.

Kings County Fire Department Performance Standards

Activity / Incident Type	Overall Time in Minutes/Seconds (from receipt of call to arrival onsite)
First-in Response Unit	15 minutes/Due to location
First-in Engine Truck	1 hour/ Due to location
First-in Basic Life Support Response Unit	Engine 9/ 15 minutes
First-in Advanced Life Support Response Unit	Contact American Ambulance
First-in Paramedic Assessment	Contact American Ambulance

c. What was the average response time (if available) for the first-in response unit for the latest year for which data is available?

No data to that response area.

Funding

d. Please describe the funding sources/mechanisms (e.g., county development impacts fees, secured fire protection agreements, county general funds) that are used to provide fire protection services to the County?

Property tax

2. Would Kings County Fire Department be able to serve the proposed project with existing stations, staff, and apparatus?

TBD

a. If not, what additional resources would be needed?

i. Station(s)

ii. Apparatus ◄

iii. Staff◄

3. Do you have any other comments about this project?

Response Prepared By:

Rick Levy	Fire Marshal
Name	**Title**

Kings County Fire Department	10.8.2019
Agency	**Date**

1. Please **confirm or update** the following information for the Kings County Sheriff's Office.

Stations and Staff

a. The sheriff stations that would serve the project site are shown in the following table, with the substation in Kettleman City being the closest. Please provide the equipment and staffing information for each of the stations in the following table.

Kings County Fire Department Stations

Station/Substation	Location	Equipment (Number of Police Vehicles)	Daily Staffing (Number and Type of Personnel)
Kings County Sheriff's Office (Headquarters)	1444 W. Lacey Blvd. Hanford	42 patrol vehicles at full staff	13 at full staff day shift Mon. thru Fri. to include four school resource Deputies. 9 assigned to patrol at full staffing.
Kings County Sheriff's Office (Substation)	85 Brown St., Kettleman City	5 patrol vehicles at full staff	1 at full staff

Performance Standards

b. Please provide the Sheriff's response time goals in the following table. Please feel free to revises the activity/incident types as necessary.

Kings County Sheriff's Office Performance Standards

Call Type		Overall Time in Minutes/Seconds (from receipt of call to arrival onsite)
Priority One Calls	Priority 1	We strive to go on scene as soon as safely practical for all calls for service.
Priority Two Calls	Priority 2	
Other call types?	Priority 3-5	

c. What was the average response time (if available) for the latest year for which data is available for each call type?

   i. Priority one calls: 10:22 approx. average

ii. Priority two calls: 13:04 approx. average

Funding

d. Please describe the funding sources/mechanisms (e.g., county development impacts fees, county general funds) that are used to provide police protection services to the County? General Fund

2. Would the Sheriff be able to serve the proposed project with existing stations, staff, and equipment? Initially yes, but future impacts are unknown at this time.

a. If not, what additional resources would be needed?

i. Station(s)

ii. Staff

iii. Equipment

3. Do you have any other comments about this project? No

Response Prepared By:

Mark Bevens	Commander
Name	**Title**
Kings County Sheriff's Office	October 4, 2019
Agency	**Date**

Appendix G1 Traffic Impact Analysis Report

Appendices

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Transportation Impact Analysis - Draft Report

Jackson Ranch Specific Plan

Kings County, California

Prepared For:
Utica J.L.J., LLC
6 Rue Chantilly
Newport Beach, CA 92660

Prepared By:
Kittelson & Associates, Inc.
750 The City Dr S, Suite 410
Orange, CA 92868
(714) 468-1186

Project Manager: Fernando Sotelo
Project Principal: Damian Stefanakis

Project No. 24908

April 2020



EXECUTIVE SUMMARY

This Traffic Impact Analysis (TIA) was prepared to analyze the potential traffic impacts from development of the Jackson Ranch Specific Plan. The overall purpose of this TIA is to inform the decision makers and general public whether the proposed project would result in any significant impacts.

The Plan Area is located in an unincorporated area of Kings County, adjacent to Interstate 5 (I-5) at the Utica Avenue off-ramp. Utica Avenue forms the northern boundary of the Plan Area, and I-5 is adjacent to and forms a portion of the eastern boundary. A portion of the southwestern boundary is adjacent to the California Aqueduct. Agricultural uses are located along the northern, western, and southern edges. The Plan Area is accessed from I-5 via Utica Avenue.

The project site covers an area of approximately 415 acres (the Plan Area). Under the Specific Plan, approximately 34 percent of the Plan Area, would be changed from General Agriculture to other land use designations that would allow a range of commercial, light industrial and public facility uses. The proposed development would offer a complementary range of commercial uses including retail, service, hospitality, office, and industrial to appeal to a range of business types. The project would serve the needs of travelers by offering a fully amenitized rest stop, provide new employment across a variety of industries and support new businesses and job creation which will enhance the regional and local economy.

The mobility plan for Jackson Ranch addresses all aspects of the public realm within street rights-of-way, including landscaping, sidewalks, and travel lanes. The roadway improvements would be installed by and paid for by the project applicant/developer. The major access would be via a new roundabout to be constructed on Utica Avenue west of the I-5 Southbound Ramps. Upon completion, they would be dedicated to the County and Caltrans for ownership and maintenance.

The Specific Plan would be developed in five phases. Development of the first phase serving as the key development piece and anchor of Jackson Ranch. It is anticipated that development of the first phase would occur soon after certification of the Draft Environmental Impact Report (DEIR). For planning and financing purposes, development of the subsequent three phases would occur in response to market demands. Phasing sequencing is subject to change over time to respond to various market and local factors and as such, phases may overlap or develop concurrently. However, for purposes of this study to evaluate the potential impacts of the proposed project and to be consistent with the DEIR, the impact analysis only looks at two development phases: the first phase consisting of buildout of the Plan Area designated as Commercial Thoroughfare, referred as the interim year (2023), and future year (2040) traffic conditions at project buildout.

The following intersections have been included in this analysis:

- Southbound I-5 at State Route 41 (SR-41) Ramps
- Northbound I-5 at SR-41 Ramps

- Bernard Drive at SR-41
- 25th Avenue at SR-41
- Utica Avenue at 25th Street
- Utica Avenue at Southbound I-5 Ramp
- Utica Avenue at Northbound I-5 Ramp
- Utica Avenue at Frontage Road

Level of service (LOS) standards vary throughout Kings County; as the Plan Area is in an unincorporated area, the analysis in this TIA applies the county's LOS standards. The Kings County General Plan Circulation Element identifies the LOS threshold for the "minimum" standard. Specifically, within the county, LOS shall be no lower than "E" for urban areas and "D" for rural areas. As the Plan Area is zoned for agricultural use, the LOS standard of "D" is the minimum for satisfactory intersection operation. All study area intersections currently operate at acceptable LOS during the peak hours for existing traffic conditions.

The traffic conditions were analyzed for Existing, Interim Year 2023 Without Jackson Ranch Development Project, Interim Year 2023 With Jackson Ranch Development Project, Future Year 2040 Without Jackson Ranch Development Project, and Future Year 2040 With Jackson Ranch Development Project.

SITE ACCESS

Vehicular access to the Plan Area will be via Utica Avenue and 25th Avenue, both of which are designated as "major collector" in the specific plan. Both major collectors will provide direct access to the proposed driveways and parking areas for the development sites throughout the Plan Area. Utica Avenue would be widened to provide an additional lane between 25th Avenue/Utica Avenue intersection on the west and the 25th Avenue/I-5 southbound ramp intersection.

Major access would be provided via Utica Avenue and the new alignment of 25th Avenue. The primary access would be provided via a roundabout, which is expected to operate acceptably with queues that would not adversely affect traffic at Utica Avenue in the vicinity of the off-ramps with I-5.

The roadway network along the project frontage and in the vicinity of the Plan Area is expected to operate at acceptable levels of service with mitigation.

SUMMARY OF IMPACT FINDINGS

The traffic impact analysis evaluated traffic conditions at eight study intersections and freeway facilities under existing, interim year 2023 conditions and long-range 2040 conditions. Under existing conditions all intersections and freeway facilities operate at acceptable LOS.

Under 2023 conditions with the project traffic, all facilities would operate at acceptable LOS except for:

- **Utica Avenue at Northbound I-5 Ramp** (Friday peak hour): Convert the intersection from a two-way stop-controlled intersection to an all-way stop-controlled intersection.
    - This facility is under the jurisdiction of the California Department of Transportation (Caltrans); implementation and timing of the mitigation measure is under Caltrans control and not the County. Therefore, this impact would remain **significant and unavoidable**.

Traffic conditions were also evaluated for the 8 study intersections and freeway facilities in the vicinity of the project site. The traffic generated by the project would result in significant impacts at the following study area intersections under the Future Year 2040 With Jackson Ranch Development Project scenario, which are summarized with proposed mitigation measures:

- **Southbound I-5 at SR-41 Ramps** (AM peak hour): Optimize the traffic signal timing (timing splits and cycle).
    - This facility is under the jurisdiction of Caltrans; implementation and timing of the mitigation measure is under Caltrans control and not the County. Therefore, this impact would remain **significant and unavoidable**.
- **Utica Avenue at Southbound I-5 Ramp** (AM peak hour): Convert the intersection from a two-way stop-controlled intersection to a roundabout.
    - This facility is under the jurisdiction of Caltrans; implementation and timing of the mitigation measure is under Caltrans control and not the County. Therefore, this impact would remain **significant and unavoidable**.
- **Utica Avenue at Northbound I-5 Ramp** (AM peak hour, PM peak hour, and Friday peak hour): Convert the intersection from a two-way stop-controlled intersection to a roundabout.
    - This facility is under the jurisdiction of Caltrans; implementation and timing of the mitigation measure is under Caltrans control and not the County. Therefore, this impact would remain **significant and unavoidable**.

The following freeway facilities would operate at an LOS below (worse) Caltrans' target of LOS C under the Future Year 2040 With Jackson Ranch Development Project scenario.

- I-5 Northbound at Utica Avenue on-ramp, merge (AM, PM, Friday peak hours)
- I-5 Northbound between Utica Avenue and SR-41, mainline segment (AM, PM, Friday peak hours)
- I-5 Northbound at Utica Avenue off-ramp, diverge (AM, PM, Friday peak hours)
- I-5 Northbound north of SR-41, mainline segment (AM, PM, Friday peak hours)
- I-5 Southbound south of Utica Avenue, mainline segment (AM, PM, Friday peak hours)
- I-5 Southbound at Utica Avenue Off-Ramp, diverge (AM, PM, Friday peak hours)
- I-5 Southbound between Utica Avenue and SR-41, mainline segment (AM, PM, Friday peak hours)
- I-5 Southbound at SR-41 On-Ramp, merge (AM, PM, Friday peak hours)
- I-5 Southbound north of Utica Avenue, mainline segment (AM and PM peak hours)

The freeway segments listed would perform unacceptably during the peak hours without mitigation. Mitigating the identified impacts to these freeway segments would require a complete reconstruction of the freeway and additional travel lanes. Since freeways are an interconnected system, it would not be possible, nor effective, to provide isolated spot improvements of one segment of the freeway where deficient operations are observed. Additionally, the facilities are controlled by Caltrans and not the County. Furthermore, at this time, funding has not been allocated by Caltrans to expand the freeway to its ultimate buildout configuration of six lanes. Therefore, these impacts are deemed **significant and unavoidable**.

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Appendix B: Traffic Counts

Appendix C: Intersection Volumes, Delay, and LOS Calculation Outputs, Existing Conditions

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Appendix F: Intersection Volumes, Delay, and LOS Calculation Outputs, 2023 Conditions

Appendix G: Freeway LOS Calculation Outputs, 2023 Conditions

Appendix H: Intersection Volumes, Delay, and LOS Calculation Outputs, 2040 Conditions

Appendix I: Freeway LOS Calculation Outputs, 2040 Conditions

Appendix J: Signal Warrant Calculations

Appendix K: Intersection Volumes, Delay, and LOS Calculation Outputs, Mitigated

1 INTRODUCTION

1.1 PROJECT OVERVIEW

Implementation of the Jackson Ranch Specific Plan (Specific Plan) includes development of approximately 141 acres of the 415-acre Plan Area. The Plan Area is in an area envisioned by Kings County as having highway-commercial potential for economic growth and development along I-5. Implementation of the Specific Plan will preserve approximately half of the Plan Area as agricultural, with the other half developed with commercial uses. Commercial uses will include hospitality uses, restaurants, a truck stop, employment centers, and distribution/logistics centers.

1.2 METHODOLOGY

The intersection level of service (LOS) analysis is based on the traffic volumes observed during morning and evening peak hour conditions from 7 to 9 AM and from 4 to 6 PM, respectively, on typical weekdays pursuant to Kings County, and between 2 to 6 PM on Fridays pursuant to Caltrans. In conformance with the Kings County and Caltrans requirements, existing peak hour operating conditions for the study area intersections were evaluated using the Highway Capacity Manual 6th Edition (HCM). Per the HCM methodology, the overall weighted average delay will be calculated at signalized and all-way-stop intersections, and the worst-case approach delay were calculated at two-way stop-controlled intersections. The level of service (LOS) corresponds to the calculated delay. This TIA was conducted in conjunction with Kings County Community Development Agency and Caltrans District 6 office. A memorandum of understanding of the proposed methodology was prepared in coordination with and reviewed by Kings County and Caltrans (see Appendix A). During the scoping it was determined that potential project impacts would be evaluated using LOS metrics.

1.2.1 Definition of Level of Service

Roadway capacity is generally limited by the ability to move vehicles through intersections. A level of service (LOS) is a standard performance measurement to describe the operating characteristics of a street system in terms of the level of congestion or delay experienced by motorists. Service levels range from A through F, which relate to traffic conditions from best (uncongested, free-flowing conditions) to worst (total breakdown with stop-and-go operation). Table 1 provides LOS criteria for urban and rural freeway facilities; given that the I-5 and SR-41 segments within the study area are in a rural designation per Caltrans D6's Transportation Concept Reports, the rural LOS criteria is applicable.

Table 1: Level of Service Criteria For Urban and Rural Freeway Facilities

LOS	Freeway Facility Density (pc/mi/lm)	
	Urban	Rural
A	≤11	≤6
B	>11–18	>6–14
C	>18–26	>14–22
D	>26–35	>22–29
E	>35–45	>29–39
F	>45 or any component segment v_d/c ratio > 1.00	>39 or any component segment v_d/c ratio > 1.00

LOS: level of service, pc/mi/ln: passenger cars per mile per lane
Source: HCM 6th Edition, 2016

1.2.2 Intersection LOS

The methodology used to assess the operation of a signalized intersection is based on the HCM (6th Edition) during the traffic peak hours. The peak hours selected for analysis are the highest volumes that occur in four consecutive 15-minute periods from 7 to 9 AM and from 4 to 6 PM on weekdays. Per the HCM methodology, overall average intersection delay at signalized intersections was calculated, and the worst-case approach delay was calculated at unsignalized intersections. The level of service corresponds to the delay calculated in seconds per vehicle. Table 2 describes the level of service concept and the operating conditions expected under each level of service for signalized and unsignalized intersections.

Table 2: Intersection Level of Service Descriptions

LOS	Description	Average Delay Per Vehicle (seconds)	
		Signalized	Unsignalized
A	Free-flow operation. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream.	≤10	0–10
B	Reasonable unimpeded operation. The ability to maneuver within the traffic stream is only slightly restricted, and control delay at the boundary intersections is not significant.	>10–20	>10–15
C	Stable operation. The ability to maneuver and change lanes at midsegment locations may be more restricted than at LOS B.	>20–35	>15–25
D	Less stable condition in which small increases in flow may cause substantial increases in delay and decreases in travel speeds.	>35–55	>25–35
E	Unstable operation and significant delay. Such operations may be due to some combination of adverse progression, high volume, and inappropriate signal timing at the boundary intersections.	>55–80	>35–50
F	Flow at extremely low speed. Congestion is likely occurring at the boundary intersections, as indicated by high delay and extensive queuing.	>80	>50

Notes: If volumes to capacity (V/C) ratio is greater than 1.0 for the operation of a signalized or unsignalized intersection, the LOS is F regardless of the delay value.
Source: HCM 6th Edition, 2016

The PTV Vistro software was used to determine the LOS at the study area intersections.

1.2.3 Roadway Segment LOS

To evaluate roadway segment operations, daily traffic LOS thresholds were obtained from the 2035 Kings County General Plan Circulation Element, which are reproduced in Table 3. The roadway threshold for a 2-lane road is 16,400 vehicles per day for a LOS of "D". Average annual daily traffic (AADT) on roadway segments was calculated by multiplying the intersection PM peak hour volumes by a peak to daily factor of 10, according to a review of the roadway counts taken on Utica Avenue. The volume per capacity ratio (v/c) was obtained by dividing the traffic volume by the roadway capacity on that segment.

Table 3: Kings County Level of Service Threshold Volumes

	Total Daily Vehicles in Both Directions (ADT)				
Roadway Type	Level of Service A	Level of Service B	Level of Service C	Level of Service D	Level of Service E
6-Lane Freeway	36,900	61,100	85,300	103,600	115,300
4-Lane Freeway	23,800	39,600	55,200	67,100	74,600
6-Lane Arterial	7,300	44,700	52,100	53,500	———
4-Lane Arterial (turn lanes)	4,800	29,300	34,700	35,700	———
4-Lane Collector	2,400	14,650	17,350	17,850	———
2-Lane Facility	———	4,200	13,800	16,400	16,900

[1] Source: 2035 Kings County General Plan Circulation Element

1.2.4 Freeway LOS

The freeway segments are analyzed for the basic, and merge/diverge components where capacity constraints typically occur on the freeway system. For this analysis the freeway segments are analyzed for each direction (northbound/southbound) for each segment between interchanges. The analysis is performed utilizing the HCM 6th Edition methodology, the software HCS 7 was used to determine the LOS for all Freeway facilities. The LOS for each segment identified below is defined on the basis of density (passenger cars/mile/lane). Table 4 presents the LOS criteria for basic freeway analysis.

The LOS for merging and diverging freeway segments are based on density, expressed in vehicles per mile per lane (pc/mi/ln). Table 5 provides the LOS criteria for merge and diverge segments.

Table 4: Level of Service Criteria For Basic Freeway and Multilane Highway Segments

LOS	Density (pc/mi/ln)
A	≤11
B	>11–18
C	>18–26
D	>26–35
E	>35–45
F	Demand exceeds capacity OR density >45

Notes: LOS: level of service, pc/mi/ln: passenger cars per mile per lane
Source: HCM 6th Edition, 2016

Table 5: Level of Service Criteria for Freeway Merge/Diverge

Level of Service	Description	Density (pc/mi/ln) Merge/Diverge
A	Unrestricted operations	≤ 10
B	Merging and diverging maneuvers noticeable to drivers	>10–20
C	Influence area speeds begin to decline	> 20–28
D	Influence area turbulence becomes intrusive	> 28–35
E	Turbulence felt by virtually all drivers	> 35
F	Ramp and freeway queues form	Demand exceeds capacity

Notes: LOS: level of service, pc/mi/ln: passenger cars per mile per lane
Source: HCM 6th Edition, 2016

1.2.5 Ramp LOS

Table 5 provides the LOS criteria for merge and diverge segments. Queuing at the I-5 and SR-41 on/off-ramps in the study area are addressed for each traffic analysis scenario. The queue lengths that are reported from the HCM methodology represent the 95th percentile queue.

1.2.6 Acceptable LOS and Thresholds of Significance

The study area intersections discussed above are within the jurisdictions of Kings County and Caltrans (five of which are unsignalized).

For intersections, the impact would be considered significant if:

- Project traffic would cause the LOS at an intersection to degrade from LOS D or better to LOS E or F.
- Project traffic would increase delay by more than 2.0 seconds at an intersection operating at LOS E or F under no project conditions.

Unsignalized intersections are evaluated to identify excessive delays and queues and to determine the need for the installation of a traffic signal or other traffic control devices. Signal warrants are a set of criteria used to evaluate the potential need for a traffic signal at an unsignalized or stop-controlled intersection. The methodology for the signal warrant analysis is included in the California Manual on Uniform Traffic Control Devices. The manual states that if one or more of the criteria for signal warrants is met, an engineering study is required to evaluate other factors to determine if an intersection must be signalized. The traffic analysis uses Warrant 3 criteria, which are based on traffic volumes entering the intersection during the peak hour.

For freeway segments, the impact would be considered significant if:

- Project traffic would contribute to trips in a freeway segment where the segment is anticipated to operate at an LOS worse than the target LOS. For the freeway segments in the study area the target LOS is C.

Figure 1: Regional Location

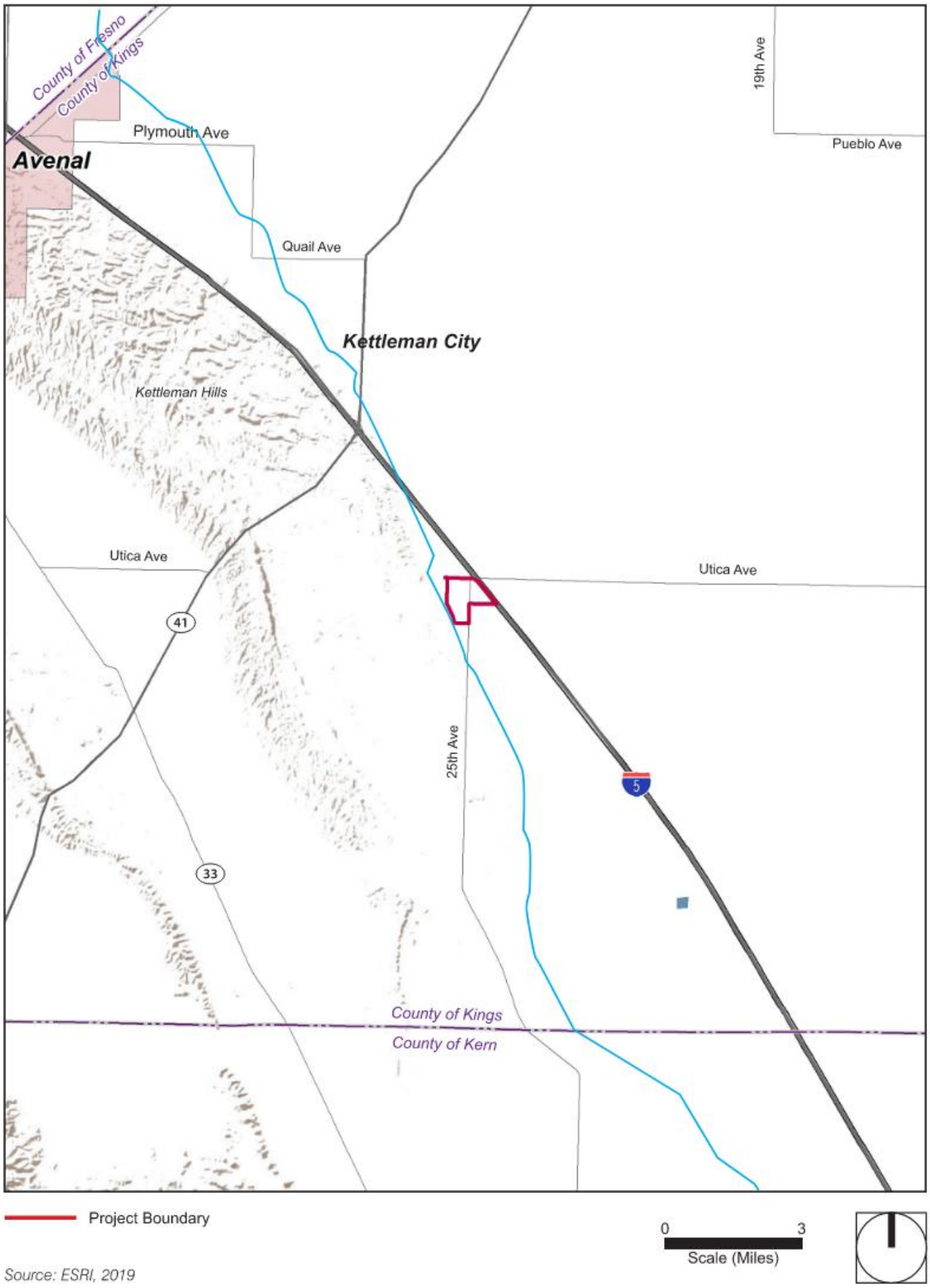


Figure 2: Local Vicinity

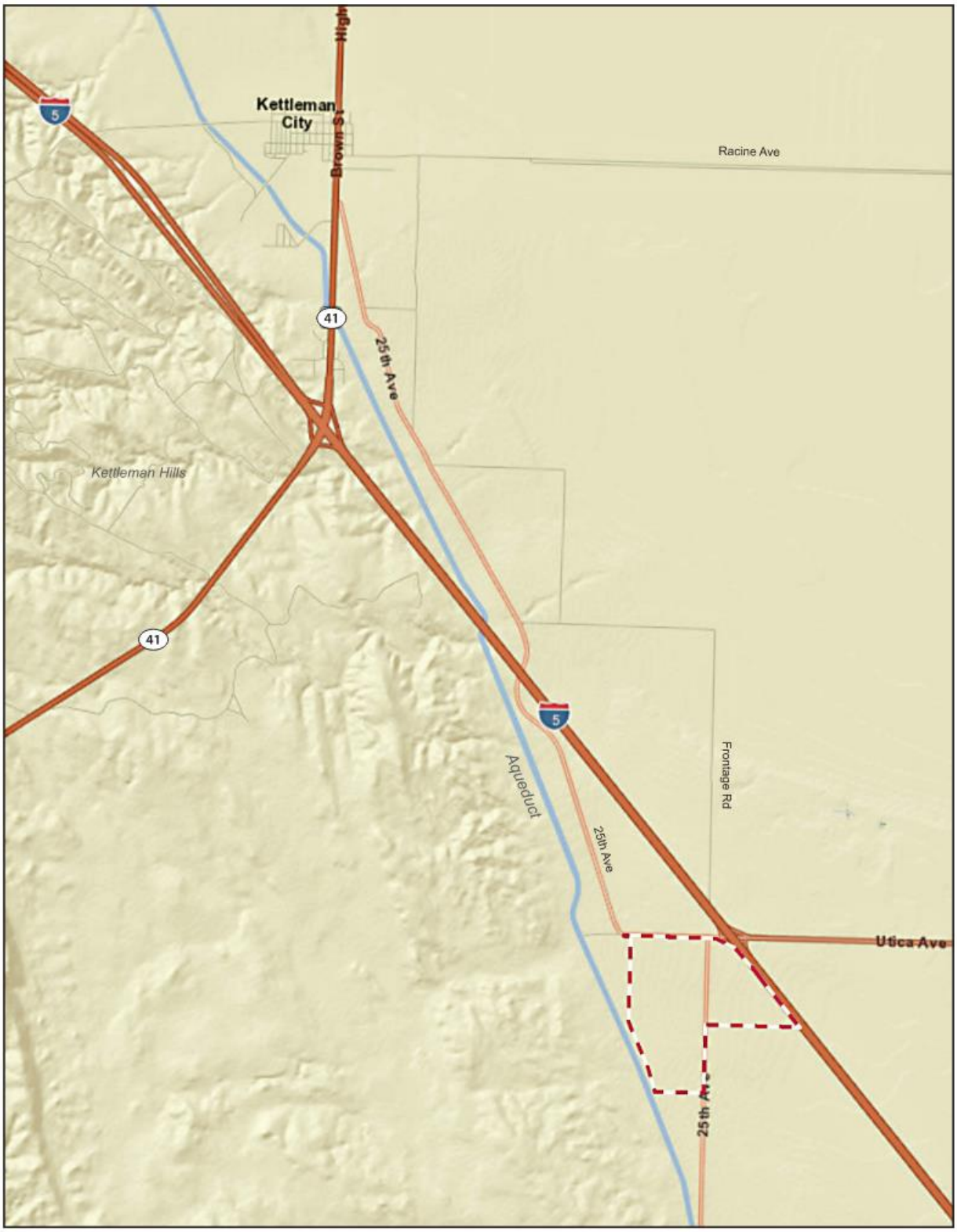
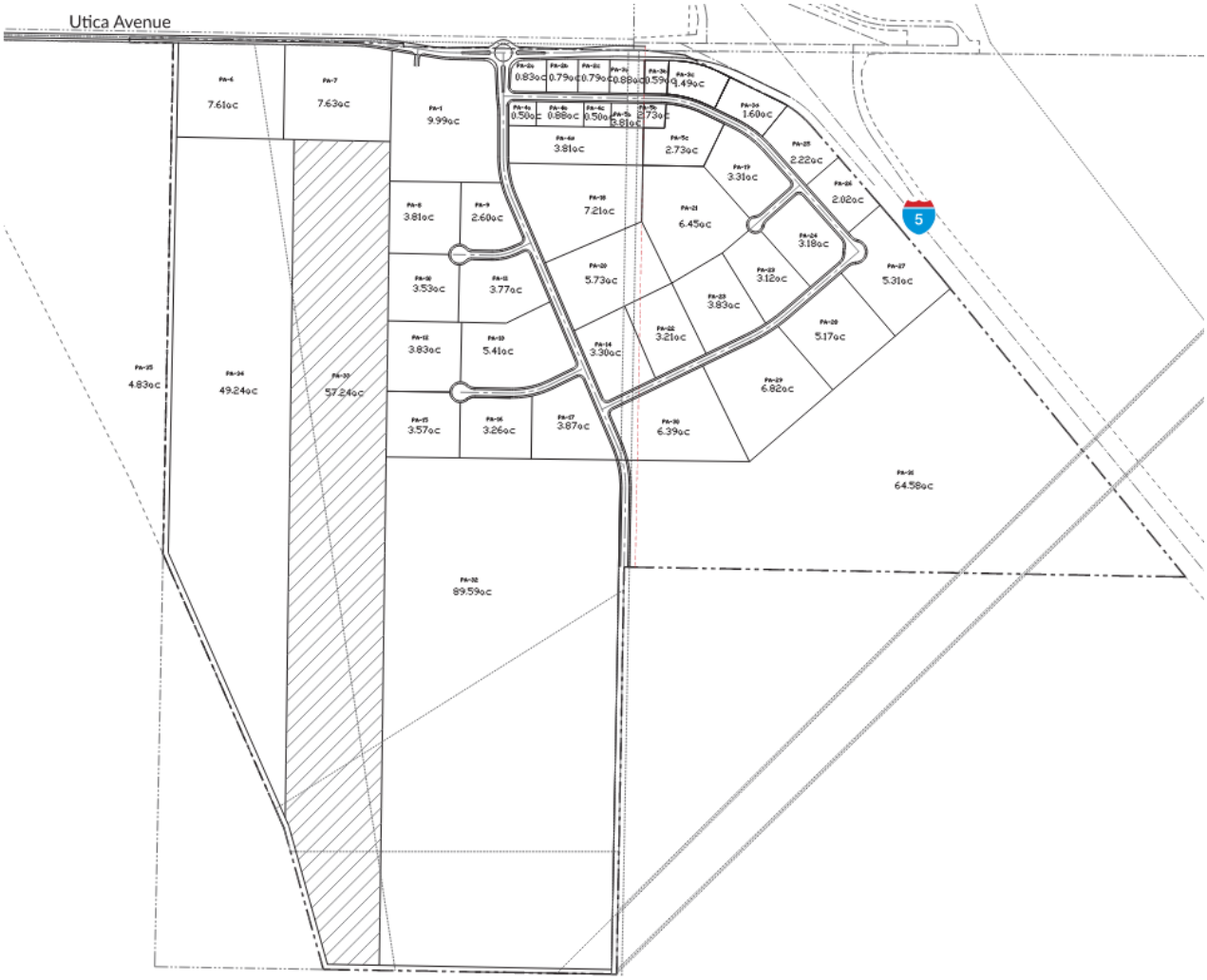


Figure 3: Jackson Ranch Specific Plan Boundary



Figure 4: Conceptual Site Plan



Source: PlaceWorks, 2020

1.3 REGULATORY AGENCIES IN THE STUDY AREA

The following jurisdictions and agencies regulate roadways, ramps, and freeways within or near the project area.

Caltrans

Intersections within incorporated cities associated with freeway on- and off-ramps fall under Caltrans jurisdiction. Caltrans targets a minimum acceptable LOS at the transition between LOS "C" and LOS "D," as discussed in Caltrans' Guide for the Preparation of Traffic Impact Studies (Caltrans 2002). For intersection analysis, this limit is the equivalent of having a delay of about 35 seconds per vehicle using HCM methodology. Caltrans and unincorporated Kings County require use of the HCM methodology for the analysis of traffic conditions. As part of Caltrans' system planning process, the agency completes the Transportation Concept Report (TCR), a long-range system-planning document that assesses future conditions and needs of state highway corridors. The document establishes future planning concept characteristics for routes, traffic data, and operations. Per the TCR for each segment in the project area, the long-range concept LOS is "C."

It shall be noted that Caltrans is currently updating its Guide for the Preparation of Traffic Impact Studies to include metrics to evaluate transportation impacts based on vehicle miles traveled (VMT). The new guidelines are anticipated to be finalized and adopted in the Spring or Summer of 2020.

Kings County Association of Governments

The Kings County Association of Governments serves as the region's Metropolitan Planning Organization and the Regional Transportation Planning Agency (RTPA). KCAG develops a Regional Traffic Model (Model) and a comprehensive long-range Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The RTP/SCS document is updated every four years and outlines Transportation System and Performance Management programs for transportation improvements. KCAG, as an MPO, is required to integrate a Congestion Management Program (CMP) as part of the MPO's planning process; however, KCAG is not a Transportation Management Agency (TMA) and according to the RTP/SCS opted not to participate in the CMP required by California Government Code Section 65089(b). California Assembly Bill 2419 allows jurisdictions to "opt out" of the CMP without the risk of losing transportation funding if the local governments elected to exempt themselves. Because KCAG opted out of the CMP requirement, the congestion management process is only relevant for federal requirements and funding, but not at the state, regional, and local levels. Therefore, the congestion management program or congestion management agency standards do not apply for Kings County.

Kings County

The 2035 Kings County General Plan discusses goals, policies, and implementation actions that determine development and mobility within the region; the General Plan's Circulation Element

provides LOS thresholds for roadway types in the county. During peak hours, LOS standard "D" is the threshold for acceptable traffic operations for the county's roadways.

2 EXISTING CONDITIONS

2.1 STUDY AREA ROADWAY NETWORK

2.1.1 General Plan Circulation Network

The study-area roadways discussed below are in the Circulation Element of the 2035 Kings County General Plan. Figure 5 shows the roadway extents and classifications that are needed to adequately implement the roadway network depicted in the General Plan and the KCAG RTP/SCS for the county's long-range buildout conditions.

2.1.2 Roadway and Street System

The roadways in the study area are described below and considered "Routes of Regional Significance" in the 2018 Kings County Regional Transportation Plan and KCAG's RTP/SCS.

- **Interstate 5 (Kern Co. to Fresno Co.)**: Currently, Interstate 5 is a 4-lane divided freeway with two travel lanes in each direction. Interstate 5 is the most traveled roadway in the county. Approximately 30% of traffic are trucks. The City of Avenal and the community of Kettleman City are located near Interstate 5 and are directly impacted by this freeway with highway commercial type land uses.
- **State Route 41 (Kern Co. to Fresno Co.)**: State Route 41 operates as a rural highway; in the vicinity of the project area, the highway is a 2-lane divided route with one lane traveling in each direction. Once SR-41 approaches the I-5, the highway converts into a 4-lane highway with two travel lanes in each direction. SR-41 has approximately 6,700 daily trips near the I-5.
- **Utica Avenue**: This east-west roadway currently has 2 lanes and is classified as a Major Collector in the Kings County Circulation Element. It is currently developed from 6th Ave. to I-5 and SR 41 to SR 33. The roadway has no bikeways or pedestrian infrastructure. Traffic is stop controlled.
- **25th Avenue**: This north-south roadway currently has 2 lanes and is classified as a Major Collector in the Kings County Circulation Element. The roadway is developed from I-5 to Kern County. The roadway has no bikeways or pedestrian infrastructure. Traffic is stop controlled.

2.1.3 Study Area Intersections

Based on preliminary trip distribution estimates, the following intersections and freeway interchanges (see Figure 6) were analyzed:

1. Southbound I-5 at SR-41 Ramps
2. Northbound I-5 at SR-41 Ramps
3. Bernard Drive at SR-41

4. 25th Avenue at SR-41
5. Utica Avenue at 25th Street
6. Utica Avenue at Southbound I-5 Ramp
7. Utica Avenue at Northbound I-5 Ramp
8. Utica Avenue at Frontage Road

National Data & Surveying Services was retained for counts of the study area intersections in December 2019.

Figure 7 identifies the existing intersection lane geometries for the study area intersections. As listed above, intersection 1,2, 3, 4, 6, and 7 are under the jurisdiction of Caltrans; intersections 5 and 8 are under the jurisdiction of Kings County.

2.1.4 Study Roadway Segments

The following roadway segments were analyzed (see Figure 5):

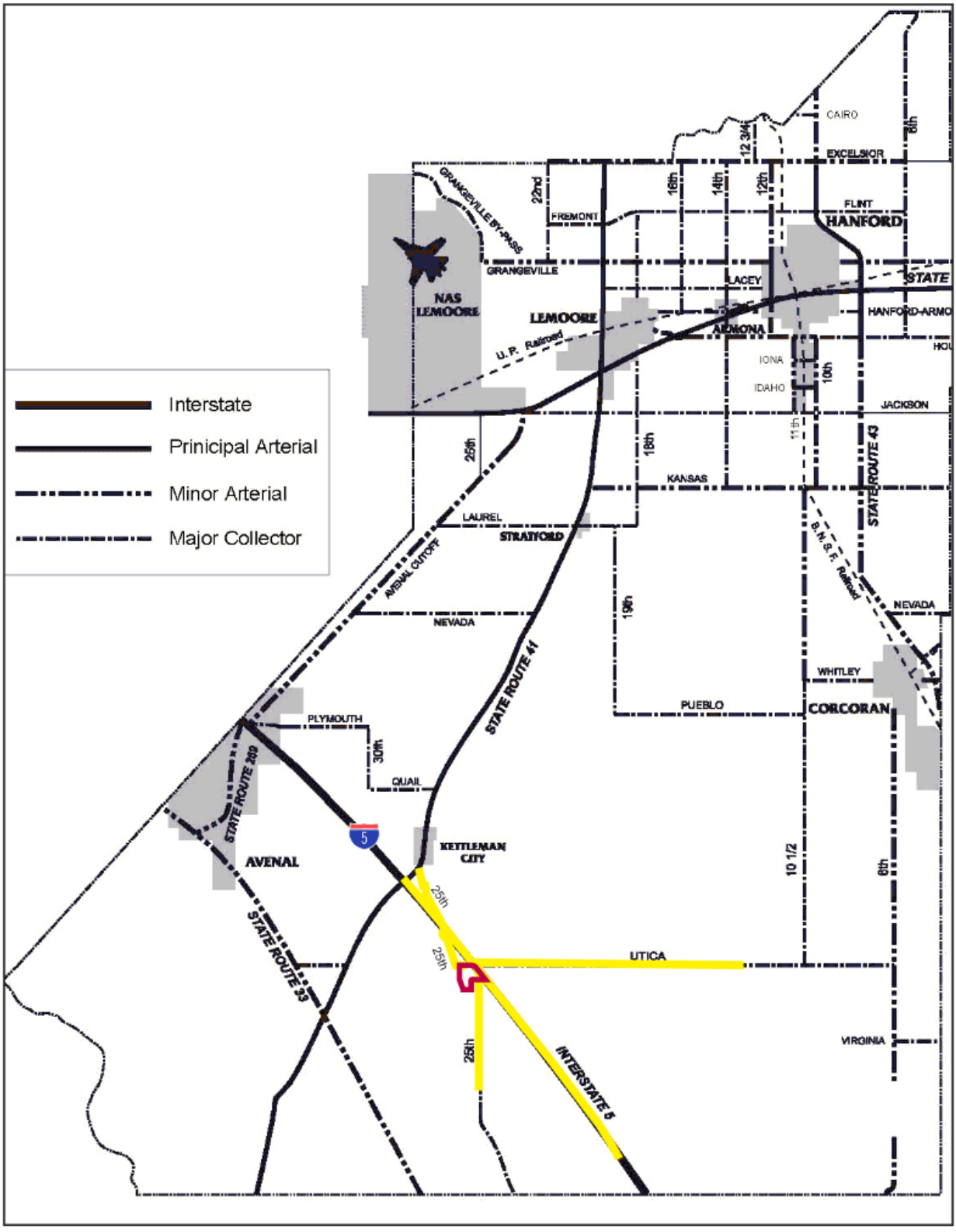
- Utica Avenue west of 25th Avenue (south leg)
- Utica Avenue between project access eastern driveway and I- 5 southbound ramps
- Utica Avenue between I- 5 southbound ramps and I- 5 northbound ramps
- Utica Avenue between I- 5 northbound ramps and Frontage Road
- Utica Avenue east of Frontage Road
- 25th Avenue south of Utica Avenue

2.1.5 Study Freeway Segments

The following freeway segments and ramps were analyzed:

- Main-line LOS and merge/diverge (each direction N/S, E/W):
    - I-5 Freeway south of Utica Avenue
    - I-5 Freeway between Utica Avenue and SR-41
    - I-5 Freeway north of SR-41
- Freeway ramps queuing and capacity:
    - I-5 northbound at Utica Avenue
    - I-5 southbound at Utica Avenue
    - I-5 northbound off-ramp at SR-41
    - I-5 on-ramp at SR-41

Figure 5: Study Corridors and Circulation Network



Source: 2035 Kings County General Plan Circulation Element

Figure 6: Study Area Intersections

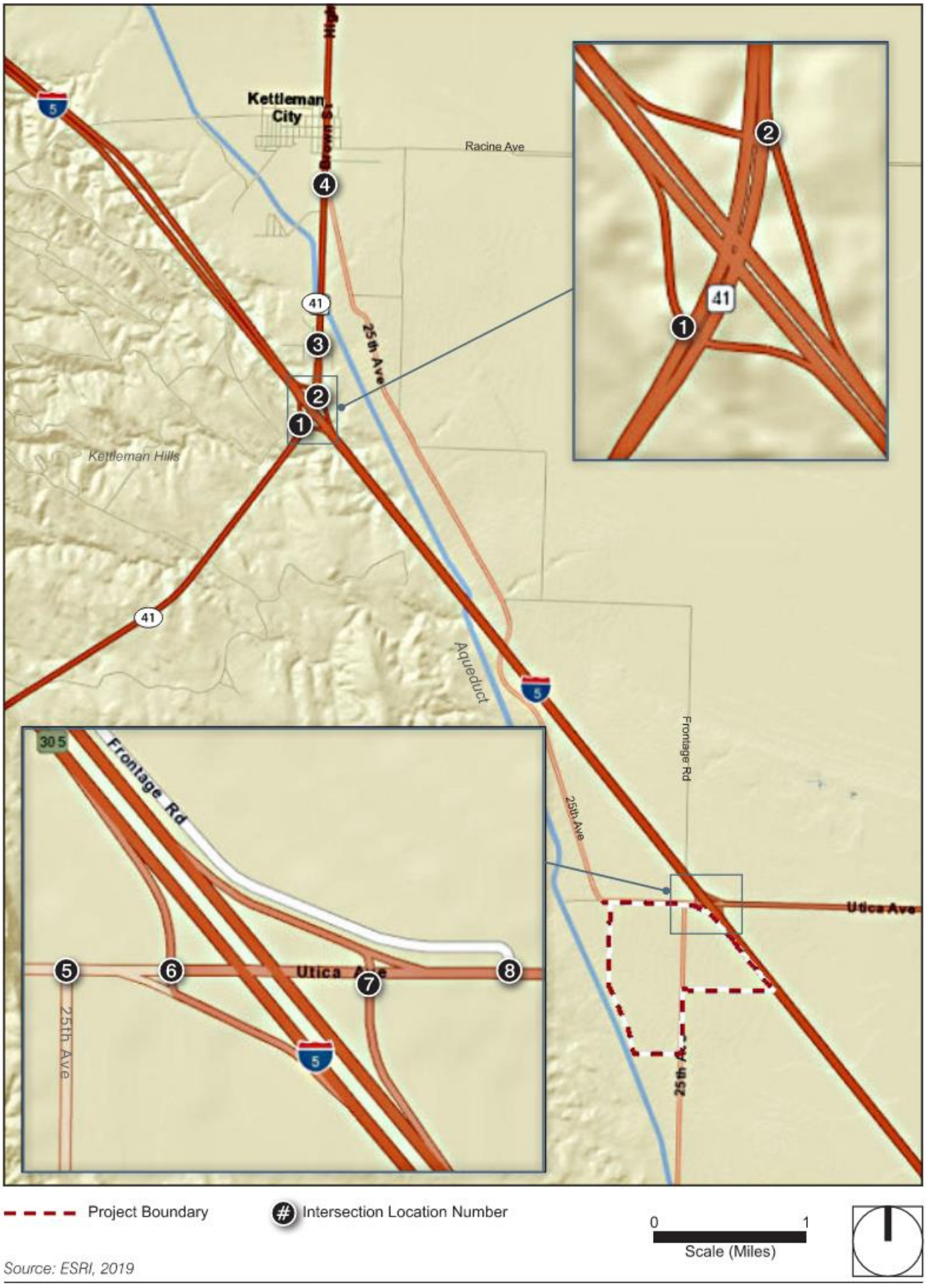
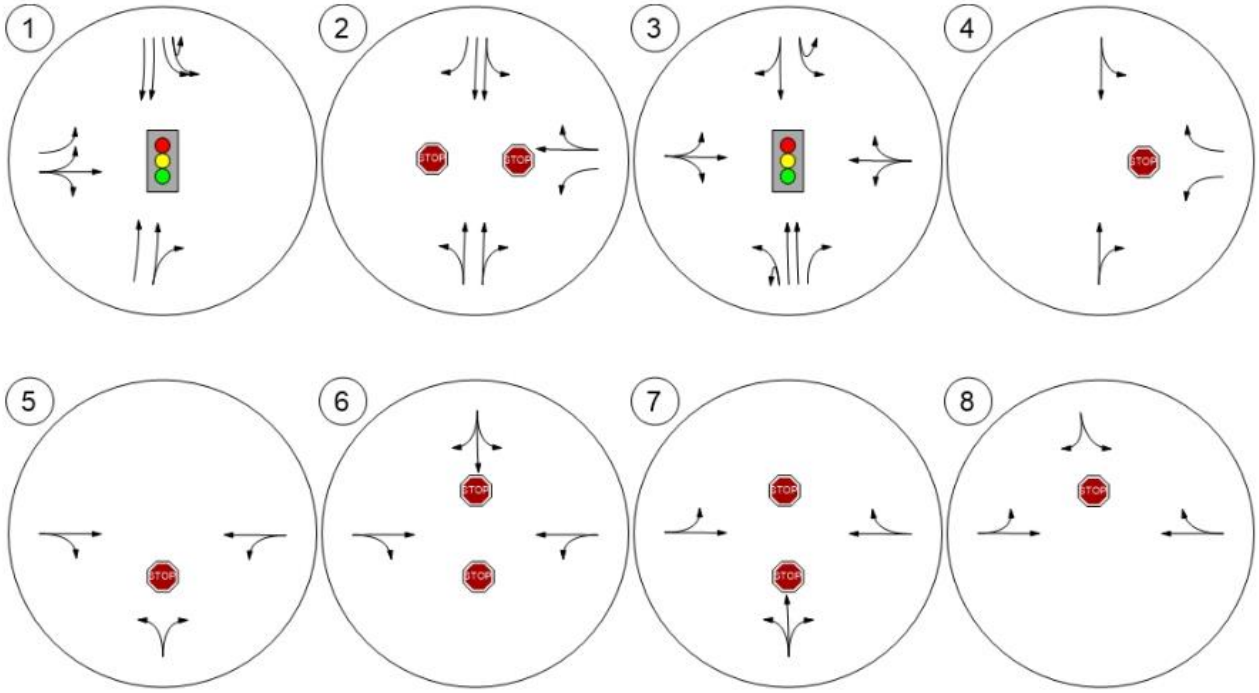


Figure 7: Existing Travel Lanes and Intersection Controls



2.2 INTERSECTION OPERATIONS

2.2.1 Existing Traffic Volumes

Weekday AM and PM peak hour and Friday afternoon peak hour turn movement volumes were collected at the study-area intersections. The counts were collected in December 2019. Traffic count worksheet and the existing turn-movement volumes are presented in Appendix B and in Figure 8, Figure 9, and Figure 10.

2.2.2 Existing Conditions Roadway Segments Analysis

Weekday and Friday daily volumes on roadways were evaluated for the County roadway segments per Kings County requirements. Roadway operations were evaluated as described in Section 1.2.3. The roadway daily volumes and corresponding LOS are summarized in Table 6. As shown in the table, all study area roadways currently operate at acceptable LOS (D or better) at the daily level for Existing traffic conditions.

Table 6: Existing Roadways Daily Levels of Service

Intersection	Type	Weekday		Friday	
		ADT	LOS	ADT	LOS
Utica Avenue west of 25th Avenue (south leg)	2-Lane Facility	140	B	510	B
Utica Avenue between project access eastern driveway and I- 5 southbound ramps	2-Lane Facility	250	B	950	B
Utica Avenue between I- 5 southbound ramps and I- 5 northbound ramps	2-Lane Facility	440	B	1,070	B
Utica Avenue between I- 5 northbound ramps and Frontage Road	2-Lane Facility	510	B	1,000	B
Utica Avenue east of Frontage Road	2-Lane Facility	510	B	980	B
25th Avenue south of Utica Avenue	2-Lane Facility	260	B	1,190	B

2.2.3 Existing Conditions Intersection Operations Analysis

The intersection operations analysis results are summarized in Table 7. LOS calculation worksheets for existing conditions are included in Appendix C. As shown in the table, all study area intersections currently operate at acceptable LOS during the peak hours for Existing traffic conditions.

Table 7: Existing Peak Hour Intersection Levels of Service

Intersection	Traffic Control	Jurisdiction	AM Peak Hour		PM Peak Hour		Friday Peak Hour	
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
1. Southbound I-5 at SR-41 Ramps	Signal	Caltrans	16.7	B	15.7	B	15.9	B
2. Northbound I-5 at SR-41 Ramps	TWSC	Caltrans	9.9	A	10.0	A	10.9	B
3. Bernard Drive at SR-41	Signal	Caltrans	29.0	C	21.8	C	26.7	C
4. 25th Avenue at SR-41	TWSC	Caltrans	9.6	A	10.4	B	10.5	B
5. Utica Avenue at 25th Street	TWSC	County	8.8	A	8.7	A	9.1	A

6. Utica Avenue at Southbound I-5 Ramp	TWSC	Caltrans	9.0	A	9.1	A	9.4	A
7. Utica Avenue at Northbound I-5 Ramp	TWSC	Caltrans	9.4	A	9.3	A	9.2	A
8. Utica Avenue at Frontage Road	TWSC	County	0.0	A	9.0	A	8.6	A

- Notes: LOS calculation worksheets included in Appendix C.
- Bold=deficient operations
- Source: Kittelson and Associates 2020

Figure 8: Existing Intersection Volumes (AM Peak Hour)

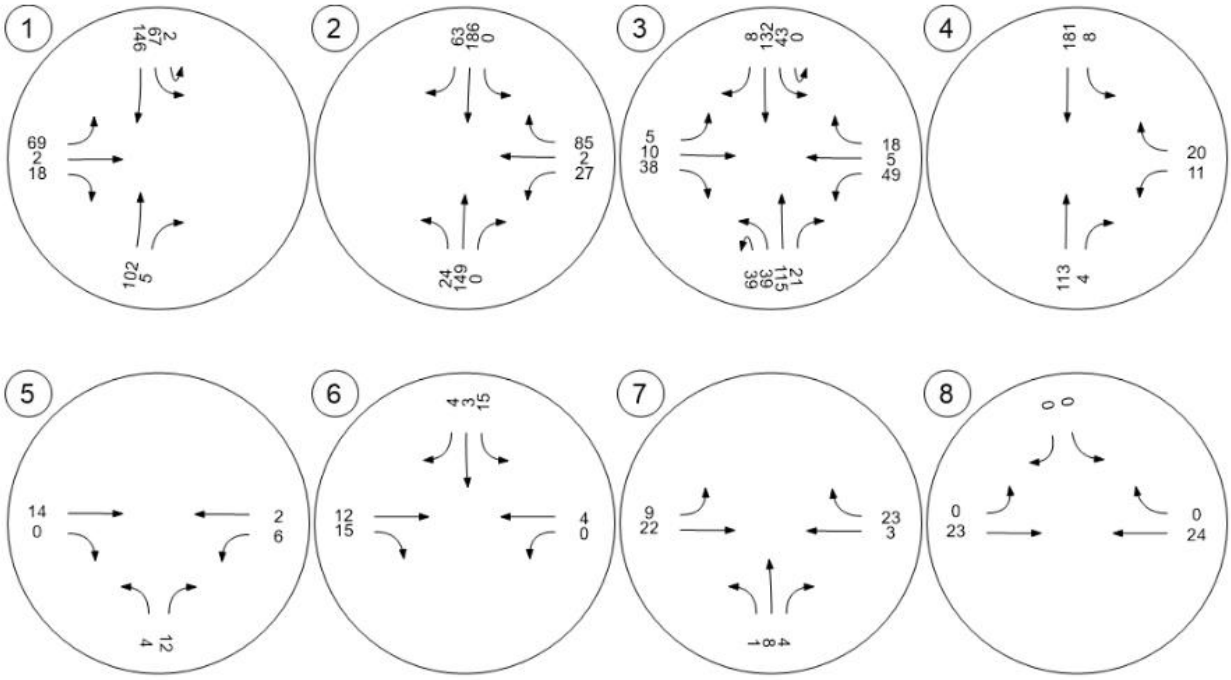


Figure 9: Existing Intersection Volumes (PM Peak Hour)

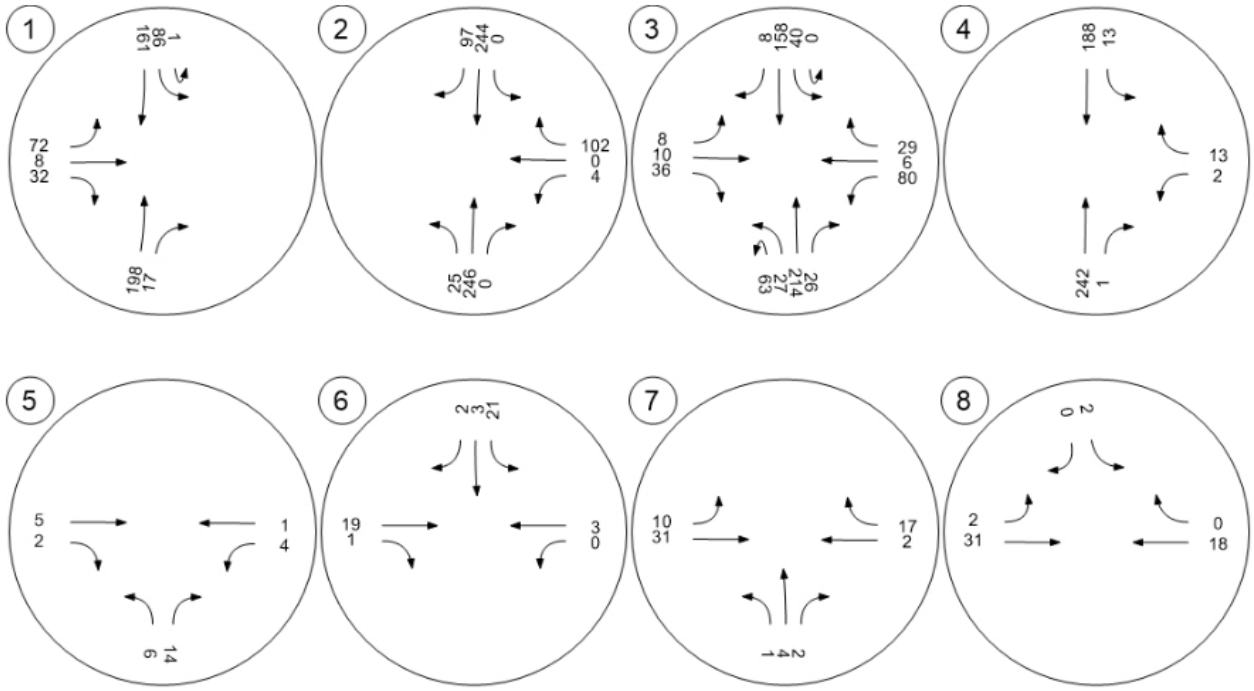
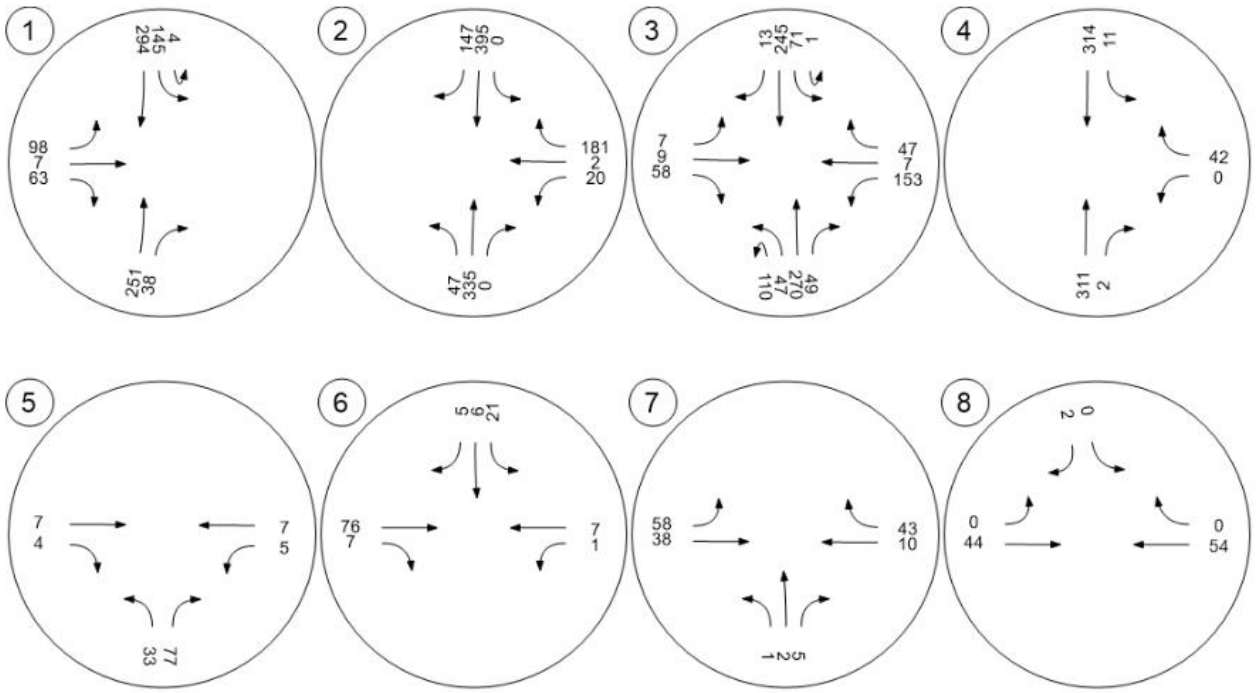


Figure 10: Existing Intersection Volumes (Friday Peak Hour)



2.3 FREEWAY OPERATIONS

Freeway operations were evaluated as described in Section 2.2, Methodology. The following describes the results of the freeway analyses for existing conditions.

2.3.1 Freeway Mainline and Merge/Diverge

Table 8 summarizes the densities and corresponding LOS used for this analysis. Existing traffic volumes on the freeway mainline was obtained by Caltrans' Performance Measurement System (PeMS) presented in Appendix D.

The Freeway LOS calculation worksheets performed with HCS are presented in Appendix E. As shown in Table 8, all freeway facilities operate within acceptable LOS, which is LOS C, under existing conditions.

Table 8: Freeway Mainline and Merge/Diverge Peak Hour Levels of Services

Segment/Ramp	Type	Mainline Lanes	AM Peak Hour		PM Peak Hour		Friday Peak Hour	
			Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
Interstate 5 Northbound								
South of Utica Avenue	Basic	2	8.2	A	10.9	A	15.3	B
Utica Avenue On-Ramp	Merge	1	8.6	B	12.9	B	17.8	B
Between Utica Avenue to SR-41	Basic	2	8.2	A	10.9	A	15.3	B
SR-41 Off-Ramp	Diverge	1	9.2	B	13.7	B	18.2	C
North of SR-41	Basic	2	8.3	A	10.7	A	15.4	B
I-5 Southbound								
South of Utica Avenue	Basic	2	7.3	A	11.0	A	14.5	B
Utica Avenue Off-Ramp	Diverge	1	10.1	B	13.5	B	19.0	C
Between Utica Avenue to SR-41	Basic	2	7.3	A	10.9	A	14.5	B
SR-41 On-Ramp	Merge	1	10.4	B	13.7	B	19.5	C
North of SR-41	Basic	2	7.2	A	11	A	15.1	B

Source: Kittelson and Associates 2020

2.3.2 Off-ramp queues

All ramps operate at acceptable LOS and there are currently no queues on the I-5 northbound and southbound off-ramps at Utica Avenue. The longest queue occurs at the I-5 southbound ramps at SR-41 with a 95th percentile queue length of 2 vehicles.

2.4 TRANSIT SERVICE AND NON-MOTORIZED CIRCULATION

The Kings Area Rural Transit (KART) provides regular transit service via route 12 in Kettleman City, which is in the vicinity of the study area. Currently the nearest bus stop is located on Becky Pease St. at

Standard Oil Avenue, approximate 2 miles from intersection 2 of the study area and over 6 miles from the Plan Area. There are currently no paved sidewalks on Utica Avenue and 25th Avenue, which abut and traverse the Plan Area. There are no bicycle-specific facilities in the study area or Plan Area.

3 PROJECT TRAFFIC

3.1 TRIP GENERATION

As stated previously, the Specific Plan would develop Plan Area with a mix of innovative service and commercial use, including: hospitality services, restaurants, a truck stop, employment centers, and distribution/logistics centers. The trip generation was calculated based on rates in the ITE Trip Generation Manual (10th edition) for the corresponding land uses. Table 9, Trip Generation Land Use Correspondence, shows the land uses referenced to develop the project trip generation for weekdays.

Section 3.1.1. describes the methodology used to estimate project trips on weekdays (except-Fridays) An analysis of project impacts on Fridays were requested by Caltrans; these trip generation estimates are shown in Section 3.1.2.

3.1.1 Weekday Trip Generation

Table 9 and Table 10 show the trip generation rates, daily rates, and project trip generation for non-Friday weekday AM and PM peak hours. The usual approach for conducting traffic impact analyses is to evaluate weekday peak hour traffic during the commute peak traffic conditions that generally occur from 7 to 9 AM and 4 to 6 PM on weekdays, when traffic conditions are generally worse.

Table 9: Trip Generation Land Use Correspondence

Land Use	Parcel Key/Planning Area	ITE LU	ITE Code
Retail	S1, S2, S3	Shopping Center	820
Restaurant	F1, F2, F3	Fast-Food Restaurant w/ Drive-thru	934
Restaurant	R1, R2	High-Turnover Sit-Down Restaurant	932
Gas Station	G1, G2	Super Convenience Market/Gas Station	960
Hotel	H1, H2	Motel	320
Freeway Incubator	P-9, P-10, P-11, P-18, P-19, P-21	Light Industrial	110
Business Center	P-7, P-8, P-12, P-13, P-14, P-15, P-16, P-17, P-20,P- 22, P-23, P-24	High-Cube Warehouse (Transload)	154
Employment	N/A	Light Industrial	110
Truck Stop	T1	Truck Stop	950

1 Trip generation rates for peak hour of adjacent streets, per the ITE Trip Generation Manual 10th Edition.
Source: Kittelson and Associates 2020

Table 10: Trip Generation Rates

Land Use	ITE Code	Unit	Trip Generation[1]						
			Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Shopping Center	820	TSF	118.56	8.17	5.00	13.17	4.53	4.91	9.43
Fast-Food Restaurant with Drive-Thru Window	934	TSF	470.95	20.50	19.69	40.19	16.99	15.68	32.67
High-Turnover (Site-Down) Restaurant	932	TSF	112.18	5.47	4.47	9.94	6.06	3.71	9.77
Super Convenience Market/Gas Station	960	FP	230.52	14.04	14.04	28.08	11.48	11.48	22.96
Motel	320	Rooms	3.35	0.14	0.24	0.38	0.21	0.17	0.38
General Light Industrial (Freeway Incubator)	110	TSF	4.96	0.62	0.08	0.70	0.08	0.55	0.63
High-Cube Warehouse (Transload)	154	TSF	1.40	0.06	0.02	0.08	0.03	0.07	0.10
Truck Stop	950	TSF	455.53	13.25	13.25	26.49	12.05	10.68	22.73

[1] Trip generation rates for peak hour of adjacent streets, per the ITE Trip Generation Manual 10th Edition.
[2] TSF=thousand square feet. FP= Fueling Positions;
Source: Kittelson and Associates 2020

This TIA evaluated impacts for Phase 1 and Phase 2 of the Specific Plan. For the purpose of calculating internal trip captures, retail trips include trips to multiple retail services, including the gas stations, as several patrons that normally fuel also go to restaurants when they stop at highway commercial and service developments. Because the National Cooperative Highway Research Program (NCHRP) 684 methodology does not calculate daily trip capture rates, the capture rates for the AM peak hour, which are less than the PM rates, were utilized.

Table 11 shows the total external trips with Phase 1 of the Specific Plan (including credits due to internal capture). Table 12 shows the net total new trips by taking into account pass-by trip reductions. Table 13 and Table 14 show the weekday trip generation for project buildout (Phase 1 + Phase2) for total trips and new trips.

As shown in Table 12, the analysis assumes that the first phase of the Specific Plan would generate 356 trips (181 inbound and 176 outbound) during the weekday AM peak hour; and 408 trips (212 inbound and 196 outbound) during the weekday PM peak hour in the Interim Year 2023 scenario. For the second phase of the Specific Plan under the Future Year 2040 scenario (buildout conditions), the new and pass-by trips would generate 811 trips (565 inbound and 246 outbound) during the weekday AM peak hour; and 866 trips (298 inbound and 568 outbound) during the weekday PM peak hour, as shown in Table 14.

Table 11: Weekday Project Phase 1 External Trips (New + Pass-by)

Land Use	Parcel Key	ITE LU	Quantity	Units[2]	Trip Generation[1]						
					Daily	AM Peak Hour			PM Peak Hour		
						In	Out	Total	In	Out	Total
Retail	S1, S2, S3	Shopping Center	11.98	TSF	513	32	20	52	23	25	48
Restaurant	F1, F2, F3	Fast-Food Restaurant w/ Drive-thru	9.85	TSF	1,674	66	63	129	70	64	134
Restaurant	R1, R2	High-Turnover Sit-Down Restaurant	10.03	TSF	406	18	15	33	25	16	41
Gas Station	G1, G2	Super Convenience Market/Gas Station	32	FP	2,663	147	147	294	153	153	306
Hotel	H1, H2	Motel	187	Rooms	226	9	15	24	16	14	30
Truck Stop	T1	Truck Stop	10.89	TSF	4,962	144	144	288	131	116	247
Phase 1 Subtotal					10,444	416	404	820	418	388	806
Internal Capture					-522	-21	-20	-41	-21	-19	-40
					9,922	*395*	*384*	779	*397*	*369*	*766*

[1] For conceptual Land Use June 18, 2019.
[2] TSF= Thousand Square Feet, FP= Fueling Positions
Source: Kittelson and Associates 2020

Table 12: Weekday Project Phase 1 Net Trip Generation (New Trips)

Land Use	Planning Area	ITE LU	Quantity	Units[2]	Trip Generation[1]						
					Daily	AM Peak Hour			PM Peak Hour		
						In	Out	Total	In	Out	Total
Retail	4b	Shopping Center	11.98	TSF	338	21	13	34	15	17	32
Restaurant	2a, 2b, 2c, 3a	Fast-Food Restaurant w/ Drive-thru	9.85	TSF	854	34	32	66	35	32	67
Restaurant	4c	High-Turnover Sit-Down Restaurant	10.03	TSF	231	10	9	19	14	9	23
Gas Station	3b, 5b	Super Convenience Market/Gas Station	32	FP	1,172	56	56	112	67	67	134
Hotel	4d, 5a	Motel	187	Rooms	226	9	15	24	16	14	30
Truck Stop	1	Truck Stop	10.89	TSF	2,878	60	60	120	76	67	143
Internal Capture					-285	-10	-9	-19	-11	-10	-21
					5,414	*181*	*176*	*356*	*212*	*196*	*408*

[1] For conceptual Land Use Plan June 18, 2019.
[2] TSF= Thousand Square Feet, FP= Fueling Positions
Source: Kittelson and Associates 2020

Table 13: Weekday Project Phase 2 External Trips (New+Pass-by)

Phase	Parcel Key	Planning Area	ITE Code	Quantity	Units[2]	Trip Generation[1]						
						Daily	AM Peak Hour			PM Peak Hour		
							In	Out	Total	In	Out	Total
Phase 1	Retail	S1, S2, S3	820	11.98	TSF	513	32	20	52	23	25	48
	Restaurant	F1, F2, F3	934	9.85	TSF	1,674	66	63	129	70	64	134
	Restaurant	R1, R2	932	10.03	TSF	406	18	15	33	25	16	41
	Gas Station	G1, G2	960	32	FP	2,663	147	147	294	153	153	306
	Hotel	H1, H2	320	187	Rooms	226	9	15	24	16	14	30
	Truck Stop	T1	950	10.89	TSF	4,962	144	144	288	131	116	247
Phase 2	Freeway Incubator	9, 10, 11, 18, 19, 21	110	470.4	TSF	2,333	290	40	330	39	258	297
	Business Center	7, 8, 12, 13, 14, 15, 16, 17, 20, 22, 23, 24	154	1,864.1	TSF	2,610	115	34	149	52	134	186
	Internal Capture					-769	-41	-24	-65	-25	-39	-64
GRAND TOTAL						**14,618**	**780**	**454**	**1,234**	**484**	**741**	**1,225**

[1] For Land Use Plan June 18, 2019.
[2] TSF= Thousand Square Feet, FP= Fueling Positions
Source: Kittelson and Associates 2020

Table 14: Weekday Project Phase 2 Net Trip Generation (New Trips)

Phase	Parcel Key	Planning Area	ITE Code	Quantity	Units[2]	Trip Generation[1]						
							AM Peak Hour			PM Peak Hour		
						Daily	In	Out	Total	In	Out	Total
Phase 1	Retail	S1, S2, S3	820	11.98	TSF	339	21	13	34	15	17	32
	Restaurant	F1, F2, F3	934	9.85	TSF	854	34	32	66	35	32	67
	Restaurant	R1, R2	932	10.03	TSF	231	10	9	19	14	9	23
	Gas Station	G1, G2	960	32	FP	1,012	56	56	112	67	67	134
	Hotel	H1, H2	320	187	Rooms	226	9	15	24	16	14	30
	Truck Stop	T1	950	10.89	TSF	2,084	60	60	120	76	67	143
Phase 2	Freeway Incubator	9, 10, 11, 18, 19, 21	110	470.4	TSF	2,333	290	40	330	39	258	297
	Business Center	7, 8, 12, 13, 14, 15, 16, 17, 20, 22, 23, 24	154	1,864.1	TSF	2,610	115	34	149	52	134	186
	Internal Capture					-484	-30	-13	-43	-16	-30	-46
GRAND TOTAL						**9,205**	**565**	**246**	**811**	**298**	**568**	**866**

Source: Kittelson and Associates 2020

3.1.2 Friday Trip Generation

The usual approach for conducting traffic impact analyses is to evaluate weekday peak hour traffic during the commute peak traffic conditions that generally occur from 7 to 9 AM and 4 to 6 PM on weekdays, when traffic conditions are generally worse. However, due to traffic patterns in the project area, Friday afternoons represent the highest traffic volumes. Caltrans requested a separate analysis for the Friday peak hour conditions, which occur in the Friday afternoon period. Table 15 shows the trip generation rates, daily rates, and project trip generation for the Friday peak hour.

Table 15: Project Adjusted Trip Generation Rates, Fridays

			Trip Generation			
				Friday Peak Hour		
Land Use	ITE Code	Unit	Daily	In	Out	Total
Shopping Center	820	TSF	59.92	2.64	2.86	5.51
Fast-Food Restaurant with Drive-Thru Window	934	TSF	238.03	9.91	9.15	19.06
High-Turnover (Site-Down) Restaurant	932	TSF	56.70	3.53	2.17	5.70
Super Convenience Market/Gas Station	960	FP	116.51	6.70	6.70	13.39
Motel	320	Rooms	1.69	0.12	0.10	0.22
General Light Industrial (Freeway Incubator)	110	TSF	4.96	0.08	0.55	0.63
High-Cube Warehouse (Transload)	154	TSF	1.40	0.03	0.07	0.10
Truck Stop	950	TSF	455.53	12.05	10.68	22.73

[1] Trip generation rates for LU 110, 154 and 950, per the ITE Trip Generation Manual 10th Edition.

[2] Trip generation rates for LU 820, 934, 932, 960, 320 adjusted according to trip generation study.

[3] TSF=thousand square feet. FP= Fueling Stations;

Source: Kittelson and Associates 2020

Table 16 shows the total external Friday trips with Phase 1 of the Specific Plan (including credits due to internal capture). Table 17 shows the net total new trips on Fridays by taking into account pass-by trip reductions.

Table 16: Phase 1 External Trips (New+Pass-by), Fridays

Land Use	Parcel Key	ITE LU	Quantity	Units[2]	Trip Generation[1]			
						Friday Peak Hour		
					Daily	In	Out	Total
Retail	S1, S2, S3	Shopping Center	11.98	TSF	718	32	34	66
Restaurant	F1, F2, F3	Fast-Food Restaurant w/ Drive-thru	9.85	TSF	2,344	98	90	188
Restaurant	R1, R2	High-Turnover Sit-Down Restaurant	10.03	TSF	568	35	22	57
Gas Station	G1, G2	Super Convenience Market/Gas Station	32	FP	3,728	214	214	428
Hotel	H1, H2	Motel	187	Rooms	317	22	19	41
Truck Stop	T1	Truck Stop	10.89	TSF	4,962	131	116	247
Phase 1 Subtotal					12,637	532	495	1,027
Internal Capture (5% of total)					-632	-27	-25	-51
Phase 1 Total External Trips					*12,005*	*505*	*470*	*976*

[1] For Land Use Plan June 18, 2019.

[2] TSF= Thousand Square Feet, FP= Fueling Positions
Source: Kittelson and Associates 2020

Table 17: Project Phase 1 Net Trip Generation (New Trips), Fridays

Land Use	Parcel Key	ITE LU	Quantity	Units[2]	Trip Generation[1]			
					Daily	Friday Peak Hour		
						In	Out	Total
Retail	S1, S2, S3	Shopping Center	11.98	TSF	474	21	22	43
Restaurant	F1, F2, F3	Fast-Food Restaurant w/ Drive-thru	9.85	TSF	1,195	49	45	94
Restaurant	R1, R2	High-Turnover Sit-Down Restaurant	10.03	TSF	324	20	13	33
Gas Station	G1, G2	Super Convenience Market/Gas Station	32	FP	1,640	94	94	188
Hotel	H1, H2	Motel	187	Rooms	317	22	19	41
Truck Stop	T1	Truck Stop	10.89	TSF	2,878	76	67	143
Internal Capture (5% of total)					-341	-14	-13	-27
Phase 1 Net Trip Generation					*6,487*	*268*	*247*	*515*

[1] For Land Use Plan June 18, 2019.

[2] TSF= Thousand Square Feet, FP= Fueling Positions
Source: Kittelson and Associates 2020

Table 18 and Table 19 show the weekday trip generation for project buildout (Phase 1 + Phase2) for total trips and new trips.

Table 18: Project Buildout External Trips (New+Pass-by), Fridays

Phase	Land Use	Parcel Key	Quantity	Units[2]	Trip Generation[1]			
						Friday Peak Hour		
					Daily	In	Out	Total
Phase 1	Retail	S1, S2, S3	11.98	TSF	718	32	34	66
	Restaurant	F1, F2, F3	9.85	TSF	2,344	98	90	188
	Restaurant	R1, R2	10.03	TSF	568	35	22	57
	Gas Station	G1, G2	32	FP	3,728	214	214	428
	Hotel	H1, H2	187	Rooms	317	22	19	41
	Truck Stop	T1	10.89	TSF	4,962	131	116	247
Phase 2	Freeway Incubator	9, 10, 11, 18, 19, 21	470.4	TSF	2,333	39	258	297
	Business Center	7, 8, 12, 13, 14, 15, 16, 17, 20, 22, 23, 24	1,864.1	TSF	2,610	52	134	186
	Internal Capture (5% of total)				-879	-31	-44	-76
Project Buildout Total External Trips					**16,701**	**592**	**843**	**1,435**

[1] For Land Use Plan June 18, 2019.

[3] TSF= Thousand Square Feet, FP= Fueling Positions
Source: Kittelson and Associates 2020

Table 19: Project Buildout Net Trip Generation (New Trips), Fridays

Phase	Land Use	Parcel Key	Quantity	Units[2]	Trip Generation[1]			
					Daily	Friday Peak Hour		
						In	Out	Total
Phase 1	Retail	S1, S2, S3	11.98	TSF	474	21	22	43
	Restaurant	F1, F2, F3	9.85	TSF	1,195	49	45	94
	Restaurant	R1, R2	10.03	TSF	324	20	13	33
	Gas Station	G1, G2	32	FP	1,417	94	94	188
	Hotel	H1, H2	187	Rooms	317	22	19	41
	Truck Stop	T1	10.89	TSF	2,084	76	67	143
Phase 2	Freeway Incubator	9, 10, 11, 18, 19, 21	470.4	TSF	2,333	39	258	297
	Business Center	7, 8, 12, 13, 14, 15, 16, 17, 20, 22, 23, 24	1,864.1	TSF	2,610	52	134	186
	Internal Capture (5% of total)				-538	-19	-33	-51
Project Buildout Net Trip Generation					**10,216**	**354**	**619**	**974**

[1] For Land Use Plan June 18, 2019.

[3] TSF= Thousand Square Feet, FP= Fueling Positions
Source: Kittelson and Associates 2020

As shown in Table 17, the analysis assumed that the first phase of the Specific Plan would generate 515 trips (268 inbound and 247 outbound) during the Friday peak hour in interim year 2023 condition. For the second phase of the Specific Plan, the new and pass-by trips would generate 974 trips (354 inbound and 619 outbound) during the Friday peak hour, as shown in Table 19.

3.2 TRIP DISTRIBUTION

The traffic that would be generated by the Specific Plan was geographically distributed onto the highway and street network by evaluating the layout of the study area roadway network and a review of land uses designated as commercial in the area. Figure 11 and Figure 12 present the anticipated trip distribution for the Specific Plan.

The trip distribution for the proposed access driveways was assigned according to the anticipated traffic patterns in the region and the location of the Plan Area. For non pass-by trips, it is assumed that 50% of trips would utilize I-5, 40% would utilize SR-41, and 10% would utilize Utica Avenue. For pass-by trips, it is assumed that 90% would utilize I-5 and 10% would utilize SR-41.

3.3 TRIP ASSIGNMENT

The trip distribution percentages are applied to the project trip generation to determine the traffic volumes forecast to be added at each intersection (i.e., trip assignment).

Figure 11: Project Trip Distribution (Non Pass-by Trips)

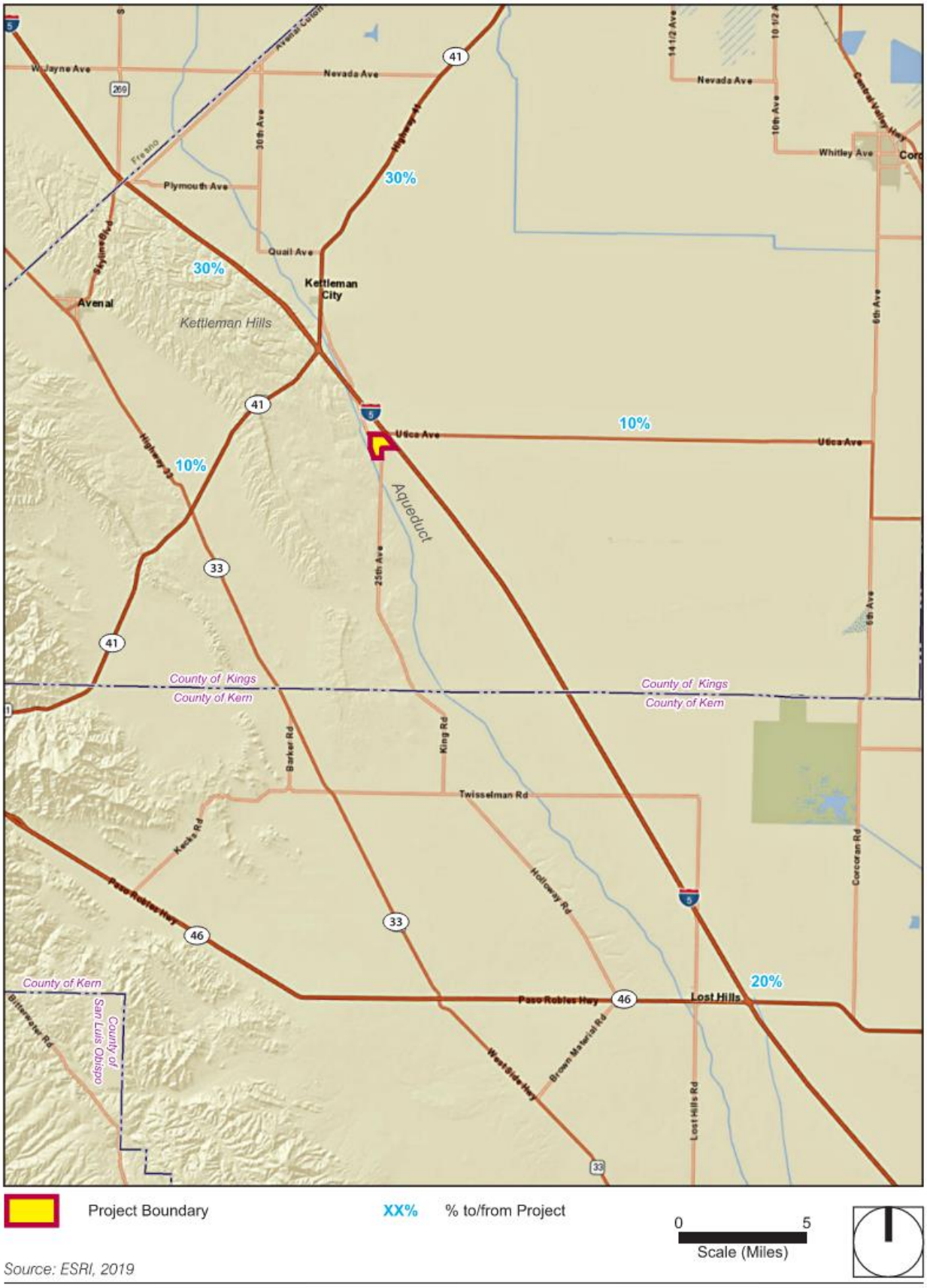


Figure 12: Project Trip Distribution (Pass-By Trips)

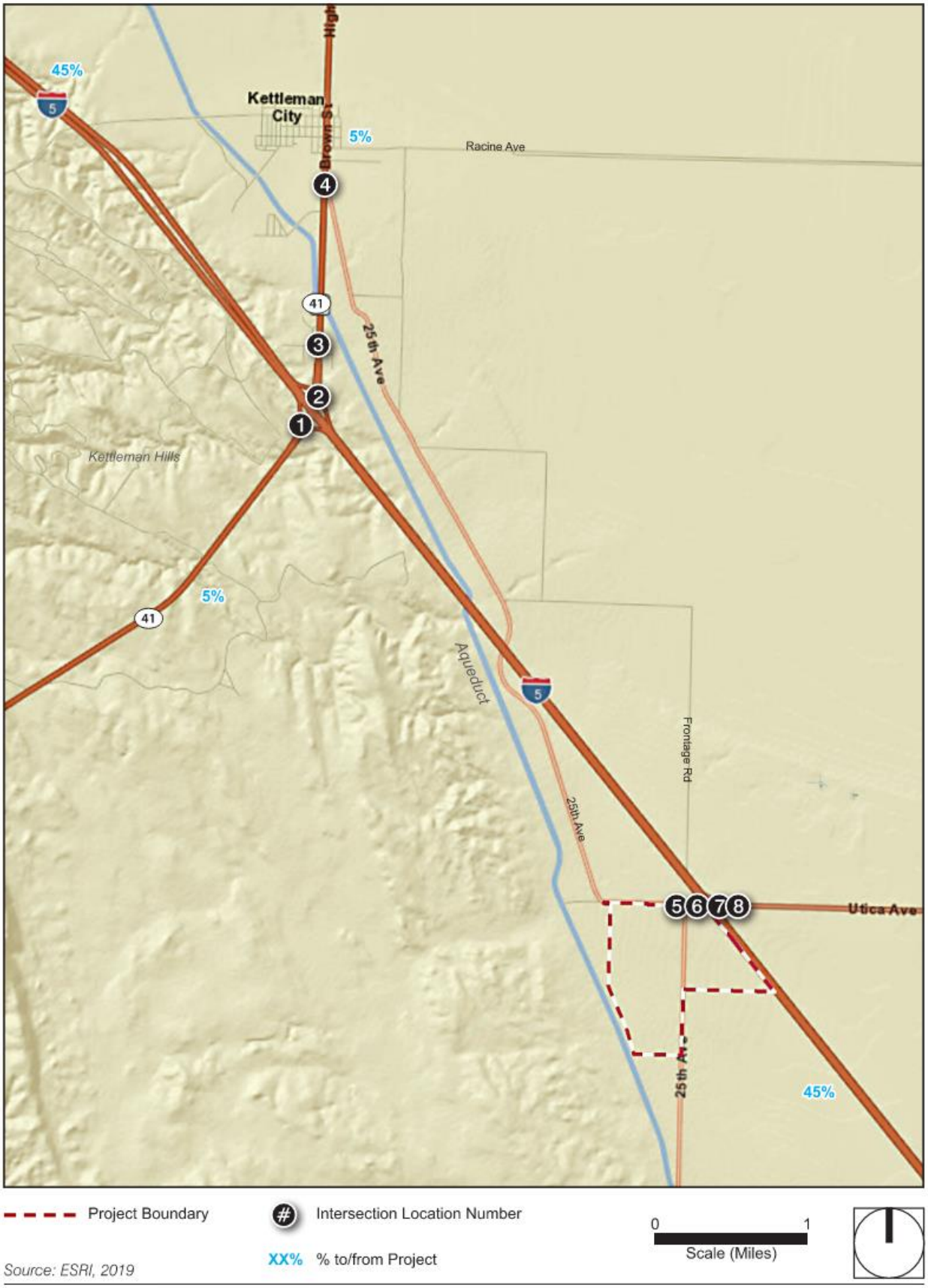


Figure 13: Project-Only Trip Assignment (Phase 1, AM Peak Hour)

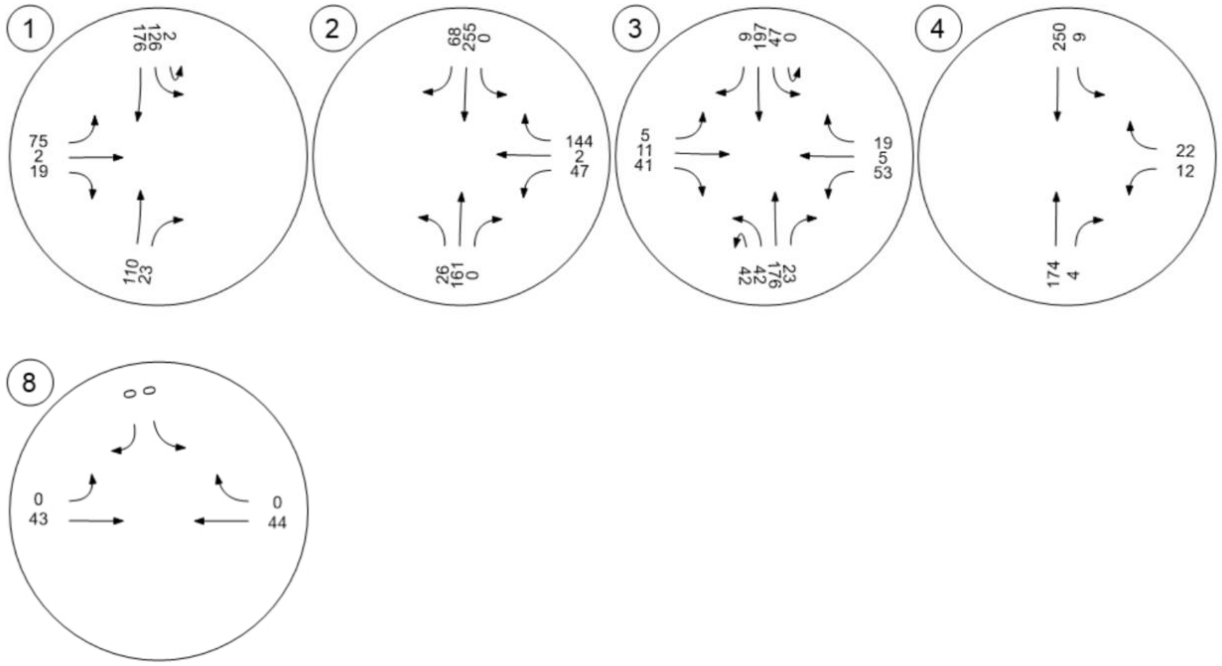


Figure 14: Project-Only Trip Assignment (Phase 1, PM Peak Hour)

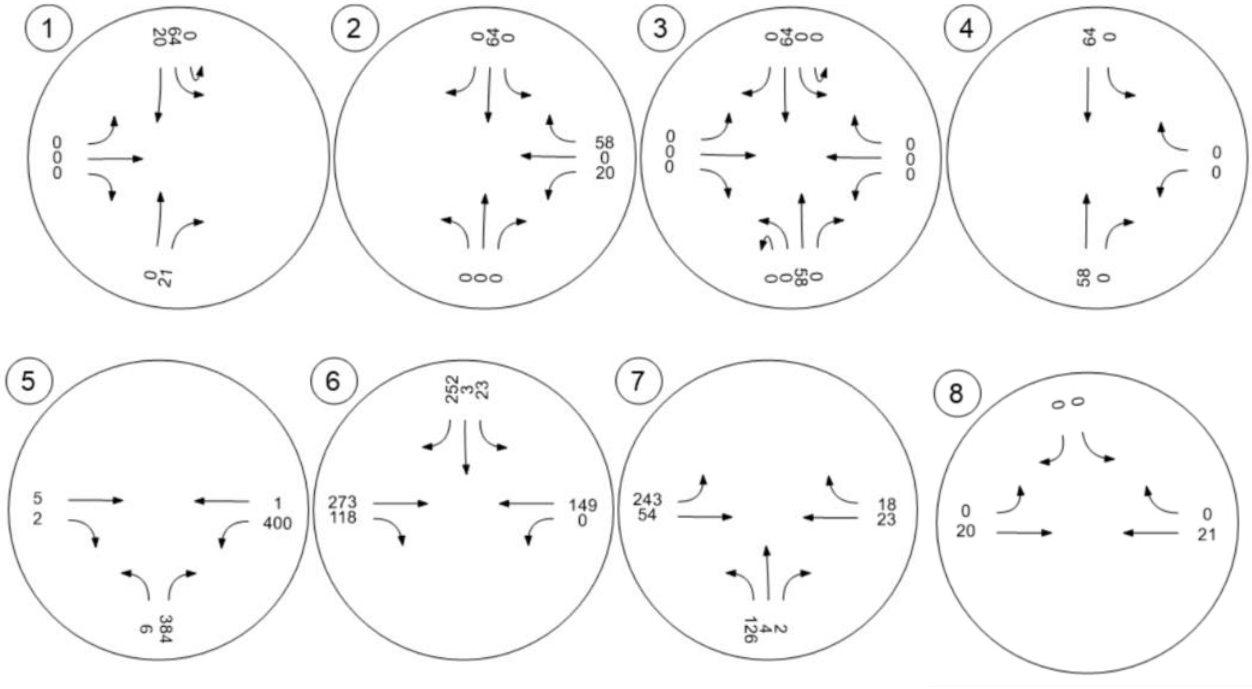


Figure 15: Project-Only Trip Assignment (Phase 1, Friday Peak Hour)

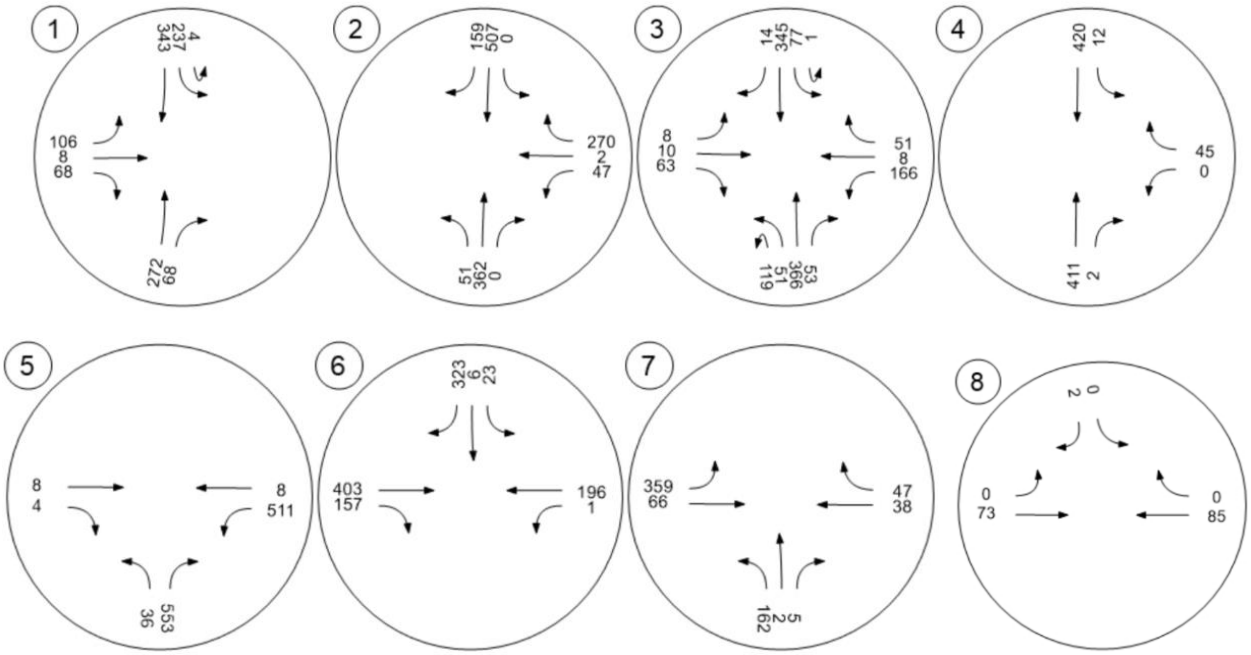


Figure 16: Project-Only Trip Assignment (Phase 2, AM Peak Hour)

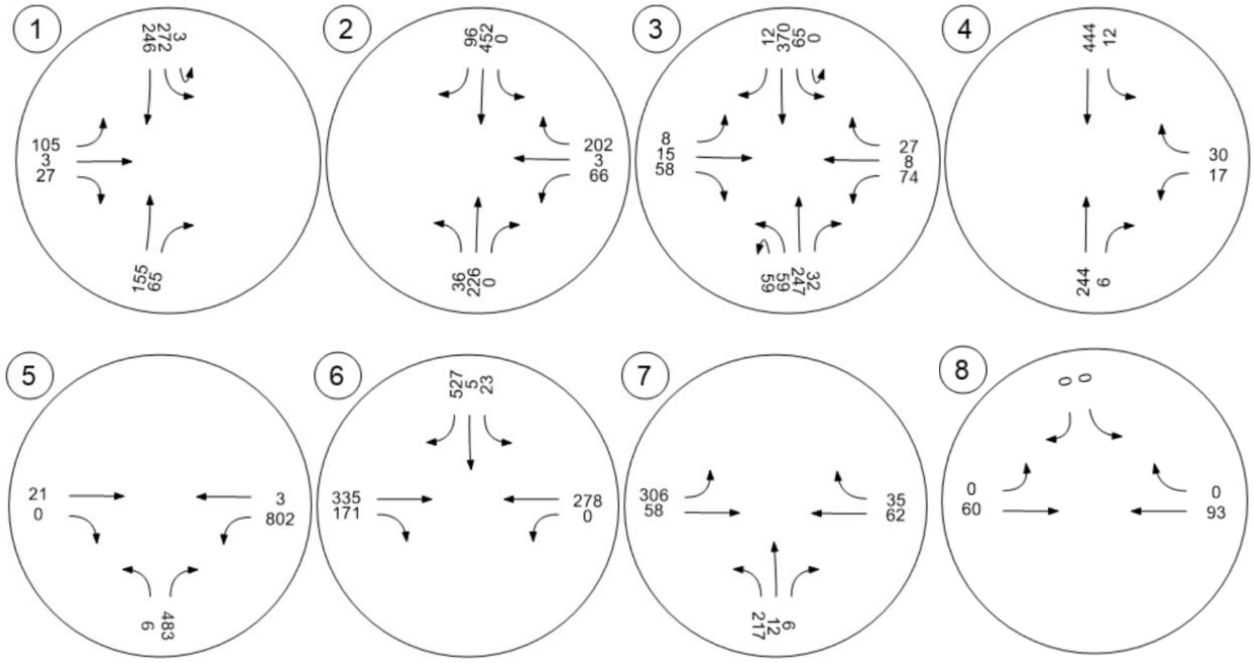


Figure 17: Project-Only Trip Assignment (Phase 2, PM Peak Hour)

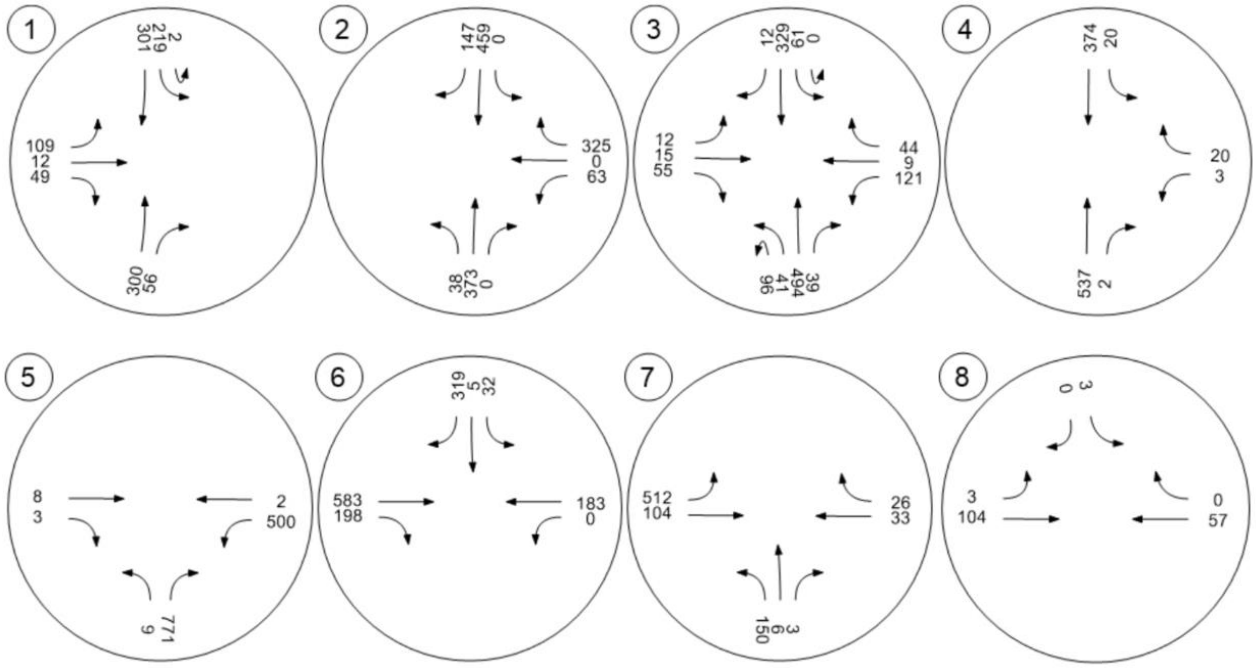
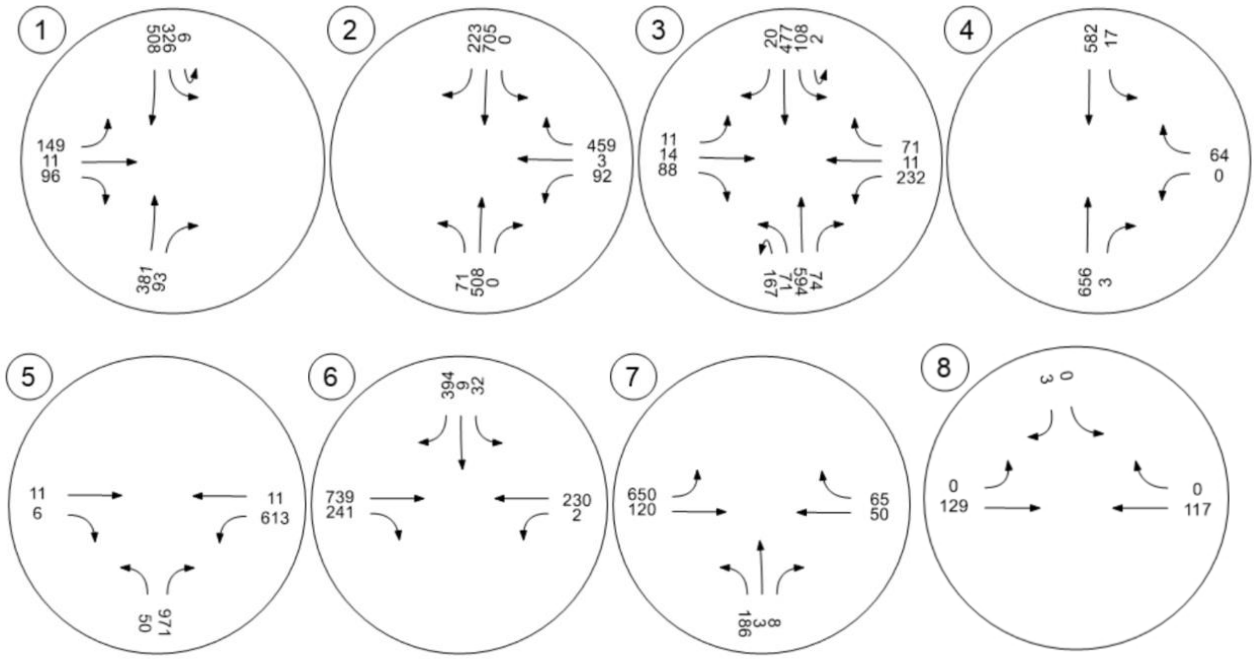


Figure 18: Project-Only Trip Assignment (Phase 2, Friday Peak Hour)



4 FUTURE TRAFFIC CONDITIONS

4.1 ESTIMATING FUTURE BASELINE TRAFFIC CONDITIONS

Ambient growth was added to existing traffic volumes at study area facilities to estimate no project conditions under the interim year (2023) and future year (2040) scenarios. Kings County was consulted to review potential cumulative projects within a 5-mile radius of the Plan Area; but no specific projects were identified.

Traffic forecasts for the Interim Year 2023 traffic conditions were based upon four years of ambient growth at 2% per year, for a total increase of approximately 8.2% from existing traffic counts.

Traffic forecasts for the Future Year 2040 traffic conditions were based upon 21 years of ambient growth at 2% per year, for a total increase of approximately 51.6% from existing traffic counts.

4.2 2023 NO PROJECT TRAFFIC CONDITIONS

The study area intersection operations for the 2023 No Project traffic conditions were calculated according to the methodology described in Section 1.2 and are provided in Table 20.

Table 20: Intersection Delay and LOS, 2023 No Project Conditions

Intersection	Traffic Control	Jurisdiction	AM Peak Hour		PM Peak Hour		Friday Peak Hour	
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
9. Southbound I-5 at SR-41 Ramps	Signal	Caltrans	16.7	B	15.7	B	16.0	B
10. Northbound I-5 at SR-41 Ramps	TWSC	Caltrans	9.9	A	10.0	A	11.5	B
11. Bernard Drive at SR-41	Signal	Caltrans	28.7	C	21.8	C	27.3	C
12. 25th Avenue at SR-41	TWSC	Caltrans	9.6	A	10.3	B	10.8	B
13. Utica Avenue at 25th Street	TWSC	County	8.7	A	8.6	A	8.8	A
14. Utica Avenue at Southbound I-5 Ramp	TWSC	Caltrans	9.0	A	8.9	A	9.3	A
15. Utica Avenue at Northbound I-5 Ramp	TWSC	Caltrans	9.4	A	9.3	A	9.4	A
16. Utica Avenue at Frontage Road	TWSC	County	0.0	A	8.9	A	8.7	A

- Notes: LOS calculation worksheets included in Appendix F.
- Bold=deficient operations
- Source: Kittelson and Associates 2020

As shown in the table, all study area intersections would operate at acceptable levels of service during the peak hours for the 2023 No Project traffic conditions.

4.2.1 Freeway Operations

Freeway operations were evaluated as described in Section 1.2, Methodology. The following describes the results of the freeway analyses for the 2023 No Project traffic conditions.

4.2.1.1 Freeway Mainline and Merge/Diverge

Table 13, Freeway Mainline Peak Hour Levels of Services, summarizes the densities and corresponding LOS used for this analysis. The Freeway LOS calculation worksheets performed with HCS are presented in Appendix G. As shown on Table 21, all freeway facilities would operate acceptably under the 2023 No Project traffic conditions.

Table 21: Freeway Mainline and Merge/Diverge 2023 No Project Peak Hour Levels of Services

Segment/Ramp	Type	Mainline Lanes	AM Peak Hour		PM Peak Hour		Friday Peak Hour	
			Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
Interstate 5 Northbound								
South of Utica Avenue	Basic	2	7.9	A	11.8	B	15.7	B
Utica Avenue On-Ramp	Merge	1	9.3	B	14.2	B	19.3	C
Between Utica Avenue to SR-41	Basic	2	7.9	A	11.8	B	15.7	B
SR-41 Off-Ramp	Diverge	1	9.9	B	14.8	B	19.7	C
North of SR-41	Basic	2	7.9	A	12.0	B	16.5	B
I-5 Southbound								
South of Utica Avenue	Basic	2	8.8	A	11.8	B	16.6	B
Utica Avenue Off-Ramp	Diverge	1	11.0	B	14.6	B	20.5	C
Between Utica Avenue to SR-41	Basic	2	8.8	A	11.8	B	16.6	B
SR-41 On-Ramp	Merge	1	11.2	B	14.8	B	21.2	C
North of SR-41	Basic	2	9.0	A	11.6	B	16.6	B

Source: Kittelson and Associates 2020

4.2.1.2 Off-Ramp Queues

All ramps operate at acceptable LOS and there are no exiting queues exceeding capacity under the 2023 No Project traffic conditions, with all 95th percentile queues at study off-ramps below three vehicles during all peak hours.

4.3 2023 WITH PROJECT TRAFFIC CONDITIONS

To assess future traffic conditions with the Specific Plan, project traffic was added to the 2023 No Project conditions discussed above. The intersection operations for the 2023 With Project traffic conditions were calculated and are listed in Table 22.

Table 22: Intersection Delay and LOS, 2023 With Project Conditions

Intersection	Traffic Control	Jurisdiction	AM Peak Hour		PM Peak Hour		Friday Peak Hour	
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
1. Southbound I-5 at SR-41 Ramps	Signal	Caltrans	18.2	B	18.8	B	13.9	B
2. Northbound I-5 at SR-41 Ramps	TWSC	Caltrans	10.3	B	10.6	B	12.5	B
3. Bernard Drive at SR-41	Signal	Caltrans	25.6	C	20.4	C	27.3	C
4. 25th Avenue at SR-41	TWSC	Caltrans	10.2	B	10.8	B	11.5	B
5. Utica Avenue at 25th Street	Roundabout	County	7.1	A	6.2	A	7.5	A
6. Utica Avenue at Southbound I-5 Ramp	TWSC	Caltrans	12.2	B	12.1	B	15.0	C
7. Utica Avenue at Northbound I-5 Ramp	TWSC	Caltrans	26.5	D	23.7	C	**100.5**	**F**
8. Utica Avenue at Frontage Road	TWSC	County	0.0	A	9.2	A	8.8	D

- Notes: LOS calculation worksheets included in Appendix F.
- Bold=deficient operations
- Source: Kittelson and Associates 2020

As shown in the table, all study area intersections would operate at acceptable levels of service during the peak hours for the 2023 With Project traffic conditions, except for the intersection of Utica Avenue at Northbound I-5 Ramp in the Friday peak hour.

Significant impacts are determined by comparing with- and without-project scenarios for each traffic condition. A project would have a significant impact at a study area intersection if it causes the level of service to deteriorate from satisfactory LOS to unsatisfactory LOS. If a facility is already operating at unsatisfactory LOS and the project causes an increase in delay of more than 2.0 seconds, it is considered a significant impact.

The increase in delay related to the Specific Plan for Utica Avenue at Northbound I-5 Ramp in the Friday peak hour would be 91.1 seconds, causing operations to degrade from LOS A to LOS F. Proposed mitigation measures are discussed in Chapter 7.

4.3.1 Freeway Operations

Freeway operations were evaluated as described in Section 1.2, Methodology. The following describes the results of the freeway analyses for 2023 With Project traffic conditions.

4.3.1.1 Freeway Mainline and Merge/Diverge

Table 23 summarizes the densities and corresponding LOS used for this analysis. The Freeway LOS calculation worksheets performed with HCS are presented in Appendix G. As shown on Table 13, all freeway facilities would operate at or below target LOS C, which is considered acceptable, under the 2023 With Project traffic conditions.

Table 23: Freeway Mainline and Merge/Diverge Peak Hour Levels of Services

Segment/Ramp	Type	Mainline Lanes	AM Peak Hour		PM Peak Hour		Friday Peak Hour	
			Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
Interstate 5 Northbound								
South of Utica Avenue	Basic	2	16.8	B	16.7	B	16.2	B
Utica Avenue On-Ramp	Merge	1	25.7	C	25.7	C	24.1	C
Between Utica Avenue to SR-41	Basic	2	17.6	B	17.6	B	17.3	B
SR-41 Off-Ramp	Diverge	1	22.0	C	22.3	C	21.6	C
North of SR-41	Basic	2	17.7	B	17.6	B	17.2	B
I-5 Southbound								
South of Utica Avenue	Basic	2	18.0	B	17.4	B	17.0	B
Utica Avenue Off-Ramp	Diverge	1	23.5	C	23.3	C	21.3	C
Between Utica Avenue to SR-41	Basic	2	18.9	C	18.5	C	18.3	C
SR-41 On-Ramp	Merge	1	23.2	C	23.3	C	23.3	C
North of SR-41	Basic	2	18.2	C	17.9	B	25.9	C

Source: Kittelson and Associates 2020

4.3.1.2 Off-Ramp Queues

Under the 2023 With Project traffic conditions, all ramps continue to operate at acceptable LOS with the addition of project traffic with the exception of Utica Avenue at Northbound I-5 Ramp during the Friday peak hour. The longest queue would occur on Friday peak hours when the off-ramp's 95th percentile queue would be 8 vehicles, or 200 feet in length. However, the off-ramp length is approximately 1,000 feet in length and would be able to accommodate the queue.

4.4 2040 NO PROJECT TRAFFIC CONDITIONS

The intersection operations for the 2040 No Project traffic conditions were calculated according to the methodology described in Section 5.1 and are provided in Table 24. Note, the baseline assumptions for the 2040 No Project traffic conditions include conversion of the Bernard Drive at SR-41 intersection to a two-lane roundabout by Caltrans, which is expected to be in place by 2040.

Table 24: Intersection Delay and LOS, 2040 No Project Conditions

Intersection	Traffic Control	Jurisdiction	AM Peak Hour		PM Peak Hour		Friday Peak Hour	
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
1. Southbound I-5 at SR-41 Ramps	Signal	Caltrans	16.8	B	16.1	B	16.9	B
2. Northbound I-5 at SR-41 Ramps	TWSC	Caltrans	10.7	B	10.9	B	14.2	B
3. Bernard Drive at SR-41	Roundabout	Caltrans	5.3	A	5.5	A	5.9	A
4. 25th Avenue at SR-41	TWSC	Caltrans	10.3	B	11.4	B	12.4	B
5. Utica Avenue at 25th Street	TWSC	County	8.7	A	8.7	A	9.0	A
6. Utica Avenue at Southbound I-5 Ramp	TWSC	Caltrans	9.1	A	9.0	A	9.7	A
7. Utica Avenue at Northbound I-5 Ramp	TWSC	Caltrans	9.6	A	9.4	A	9.8	A
8. Utica Avenue at Frontage Road	TWSC	County	0.0	A	8.9	A	8.8	A

- Notes: LOS calculation worksheets included in Appendix H.
- Bold=deficient operations
- Source: Kittelson and Associates 2020

As shown in the table, all study area intersections would operate at acceptable levels of service during the peak hours for 2040 No Project traffic conditions.

4.4.1 Freeway Operations

Freeway operations were evaluated as described in Section 1.2, Methodology. The following describes the results of the freeway analyses for 2040 No Project traffic conditions.

4.4.1.1 Freeway Mainline and Merge/Diverge

Table 25 summarizes the densities and corresponding LOS used for this analysis. The Freeway LOS calculation worksheets performed with HCS are presented in Appendix I. As shown in Table 25, the freeway mainlines would operation at an acceptable level of service, with exception of the following, which are forecast to operate at LOS D during the Friday peak hour:

- I-5 Northbound at SR-41 Off-Ramp, diverge
- I-5 Southbound at Utica Avenue Off-Ramp, diverge
- I-5 Southbound at SR-41 On-Ramp, merge

Table 25: Freeway Mainline and Merge/Diverge 2040 No Project Peak Hour Levels of Service

Segment/Ramp	Type	Mainline Lanes	AM Peak Hour		PM Peak Hour		Friday Peak Hour	
			Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
Interstate 5 Northbound								
South of Utica Avenue	Basic	2	11.1	B	16.6	B	22.9	C
Utica Avenue On-Ramp	Merge	1	13.1	B	20.1	C	28.0	D
Between Utica Avenue to SR-41	Basic	2	11.1	B	16.6	B	22.9	C
SR-41 Off-Ramp	Diverge	1	13.9	B	20.8	C	**27.8**	**D**
North of SR-41	Basic	2	11.0	A	16.8	B	24.3	C
I-5 Southbound								
South of Utica Avenue	Basic	2	12.4	B	16.5	B	24.4	C
Utica Avenue Off-Ramp	Diverge	1	15.4	B	20.4	C	**28.8**	**D**
Between Utica Avenue to SR-41	Basic	2	12.4	B	16.5	B	24.4	C
SR-41 On-Ramp	Merge	1	15.8	B	21.0	C	**31.2**	**D**
North of SR-41	Basic	2	12.6	B	16.2	B	24.6	C
SR-41 Northbound								
South of 25th Avenue	Basic	2	1.9	A	4.5	A	6.1	A
SR-41 Southbound								
South of 25th Avenue	Basic	2	3.1	A	2.6	A	6.3	A

Source: Kittelson and Associates 2020

4.4.1.2 Off-Ramp Queues

Under the 2040 No Project traffic conditions, all ramps operate at acceptable LOS and there are no exiting queues exceeding capacity, with all exiting 95th percentile queues below four vehicles during all peak hours.

4.5 2040 WITH PROJECT TRAFFIC CONDITIONS

To assess future traffic conditions with the Specific Plan, project traffic was added to the 2040 No Project conditions discussed above. The intersection operations for the 2040 With Project traffic conditions were calculated and are listed in Table 26.

Table 26: Intersection Delay and LOS, 2040 With Project Conditions

Intersection	Traffic Control	Jurisdiction	AM Peak Hour		PM Peak Hour		Friday Peak Hour	
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
1. Southbound I-5 at SR-41 Ramps	Signal	Caltrans	**82.8**	**F**	47.9	D	44.4	D
2. Northbound I-5 at SR-41 Ramps	TWSC	Caltrans	11.4	B	13.5	B	21.1	C
3. Bernard Drive at SR-41	Roundabout	Caltrans	6.1	A	6.3	A	9.7	A
4. 25th Avenue at SR-41	TWSC	Caltrans	12.3	B	13.4	B	14.9	B
5. Utica Avenue at 25th Street	Roundabout	County	13.4	B	10.4	B	14.1	B
6. Utica Avenue at Southbound I-5 Ramp	TWSC	Caltrans	**38.6**	**E**	17.5	C	31.2	D
7. Utica Avenue at Northbound I-5 Ramp	TWSC	Caltrans	**144.3**	**F**	**497.1**	**F**	**1968.1**	**F**
8. Utica Avenue at Frontage Road	TWSC	County	0.0	A	9.6	A	9.0	A

- Notes: LOS calculation worksheets included in Appendix H.
- Bold=deficient operations
- Source: Kittelson and Associates 2020

As shown in the table, all study area intersections would operate at acceptable levels of service during the peak hours for 2040 With Project traffic conditions, except for the following intersections:

- Southbound I-5 at SR-41 Ramps (AM peak hour)
- Utica Avenue at Southbound I-5 Ramp (AM peak hour)
- Utica Avenue at Northbound I-5 Ramp (AM peak hour, PM peak hour, and Friday peak hour)

Significant impacts are determined by comparing with- and without-project scenarios for each traffic condition. A project would have a significant impact at a study area intersection if it causes the level of service to deteriorate from satisfactory LOS to unsatisfactory LOS. If a facility is already operating at unsatisfactory LOS and the project causes an increase in delay of more than 2.0 seconds, it is considered a significant impact. Impacts under this scenario are as follows:

- The increase in delay related to the project for Southbound I-5 at SR-41 Ramps in the AM peak hour would be 66.0 seconds, causing operations to degrade from LOS B to LOS F.
- The increase in delay related to the project for Utica Avenue at Southbound I-5 Ramp in the AM peak hour would be 29.5 seconds, causing operations to degrade from LOS A to LOS E.
- The increase in delay related to the project for Utica Avenue at Northbound I-5 Ramp in the AM peak hour would be 134.7 seconds, in the PM peak hour would be 487.7 seconds, and in the Friday peak hour would be greater than 200 seconds, degrading operations from LOS A to LOS F during all three periods.

Proposed mitigation measures are discussed in Chapter 7.

4.5.1 Freeway Operations

Freeway operations were evaluated as described in Section 1.2, Methodology. The following describes the results of the freeway analyses for the 2040 With Project traffic conditions.

4.5.1.1 Freeway Mainline and Merge/Diverge

Table 27 summarizes the densities and corresponding LOS used for this analysis. The Freeway LOS calculation worksheets performed with HCS are presented in Appendix I. As shown in Table 27, the following freeway facilities would operate at an LOS below (worse) Caltrans' target of LOS C:

- I-5 Northbound at Utica Avenue on-ramp, merge (AM, PM, Friday peak hours)
- I-5 Northbound between Utica Avenue and SR-41, mainline segment (AM, PM, Friday peak hours)
- I-5 Northbound at Utica Avenue off-ramp, diverge (AM, PM, Friday peak hours)
- I-5 Northbound north of SR-41, mainline segment (AM, PM, Friday peak hours)
- I-5 Southbound south of Utica Avenue, mainline segment (AM, PM, Friday peak hours)
- I-5 Southbound at Utica Avenue Off-Ramp, diverge(AM, PM, Friday peak hours)
- I-5 Southbound between Utica Avenue and SR-41, mainline segment (AM, PM, Friday peak hours)
- I-5 Southbound at SR-41 On-Ramp, merge (AM, PM, Friday peak hours)
- I-5 Southbound north of Utica Avenue, mainline segment (AM and PM peak hours)

Table 27: Freeway Mainline and Merge/Diverge Peak Hour Levels of Services

Segment/Ramp	Type	Mainline Lanes	AM Peak Hour		PM Peak Hour		Friday Peak Hour	
			Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
Interstate 5 Northbound								
South of Utica Avenue	Basic	2	25.6	C	24.6	C	23.7	C
Utica Avenue On-Ramp	Merge	1	**35.3**	**D**	**42.3**	**E**	**43.1**	**E**
Between Utica Avenue to SR-41	Basic	2	**26.4**	**D**	**29.4**	**D**	**28.4**	**D**
SR-41 Off-Ramp	Diverge	1	**30.7**	**D**	**33.1**	**E**	**32.6**	**D**
North of SR-41	Basic	2	**27.3**	**D**	**27.7**	**D**	**26.6**	**D**
I-5 Southbound								
South of Utica Avenue	Basic	2	**27.1**	**D**	**26.8**	**D**	26.0	C
Utica Avenue Off-Ramp	Diverge	1	**35.5**	**E**	**32.2**	**D**	**30.5**	**D**
Between Utica Avenue to SR-41	Basic	2	**32.8**	**D**	**28.1**	**D**	**27.6**	**D**
SR-41 On-Ramp	Merge	1	**39.0**	**E**	**34.2**	**D**	**34.9**	**D**
North of SR-41	Basic	2	**29.1**	**D**	**26.9**	**D**	25.9	C

Source: Kittelson and Associates 2020

4.5.1.2 Off-Ramp Queues

Under the 2040 With Project traffic conditions, freeway ramps continue to operate at acceptable LOS with addition of project traffic with the exception of Southbound I-5 at SR-41 Ramps (AM peak hour), Utica Avenue at Southbound I-5 Ramp (AM peak hour), and Utica Avenue at Northbound I-5 Ramp (AM, PM, and Friday peak hours). At Southbound I-5 at SR-41 Ramps, the off-ramp 95th percentile queue during the AM peak hour is less than six vehicles and does not exceed capacity. At Utica Avenue at Southbound I-5 Ramp, the off-ramp 95th percentile queue during the AM peak hour is less than 11 vehicles (approximately 275 feet); this queue, while it does not exceed capacity, will be addressed as part of the operations mitigation measures for this intersection in Chapter 7. At Utica Avenue at Northbound I-5 Ramp, the off-ramp 95th percentile queue is less than 12 vehicles (approximately 285 feet) during the AM peak hour, less than 14 vehicles (approximately 350 feet) during the PM peak hour, and less than 24 vehicles (approximately 598 feet) during the Friday peak hour. These queues are addressed as part of the operations mitigation measures for this intersection in Chapter 7.

5 SIGNAL WARRANTS

Signal warrants are a set of criteria used to evaluate the potential need for a traffic signal at an unsignalized or stop-controlled intersection. The methodology for the signal warrant analysis is included in the 2014 California Manual on Uniform Traffic Control Devices (MUTCD). The manual states that if one or more of the criteria for signal warrants is met, an engineering study is required to evaluate other factors to determine if an intersection must be signalized. The traffic analysis uses Warrant 3 criteria, which are based on traffic volumes entering the intersection during the peak hour. The signal warrant calculations are included in Appendix J. Tables 28 and 29 provide the peak hour signal warrant analysis for the 2023 With Project and 2040 With Project traffic conditions.

Table 28: Peak Hour Signal Warrants, 2023 With Project Conditions

Intersection	Traffic Control	Jurisdiction	AM Peak Hour	PM Peak Hour	Friday Peak Hour
2. Northbound I-5 at SR-41 Ramps	TWSC	Caltrans	Not met	Not met	Not met
4. 25th Avenue at SR-41	TWSC	Caltrans	Not met	Not met	Not met
6. Utica Avenue at Southbound I-5 Ramp	TWSC	Caltrans	**Met**	**Met**	**Met**
7. Utica Avenue at Northbound I-5 Ramp	TWSC	Caltrans	Not met	Not met	**Met**
8. Utica Avenue at Frontage Road	TWSC	County	Not met	Not met	Not met

- Notes: Signal warrant calculations included in Appendix J.
  The project would implement a roundabout at intersection 5.
  Source: Kittelson and Associates 2020

Table 29: Peak Hour Signal Warrants, 2040 With Project Conditions

Intersection	Traffic Control	Jurisdiction	AM Peak Hour	PM Peak Hour	Friday Peak Hour
2. Northbound I-5 at SR-41 Ramps	TWSC	Caltrans	Not met	Not met	**Met**
4. 25th Avenue at SR-41	TWSC	Caltrans	Not met	Not met	Not met
6. Utica Avenue at Southbound I-5 Ramp	TWSC	Caltrans	**Met**	**Met**	**Met**
7. Utica Avenue at Northbound I-5 Ramp	TWSC	Caltrans	**Met**	**Met**	**Met**
8. Utica Avenue at Frontage Road	TWSC	County	Not met	Not met	Not met

- Notes: Signal warrant calculations worksheets included in Appendix J.
  The project would implement a roundabout at intersection 5.
  Source: Kittelson and Associates 2020

Please note that although the signal warrant criteria are met for various freeway intersections, the satisfaction of a traffic signal warrant or warrants does not in itself require the installation of a traffic control signal. The need for a traffic control signal is based on an engineering study determining whether installation of a traffic control signal is justified at the intersections

6 SITE ACCESS AND INTERNAL CIRCULATION

The following discusses project site access features, internal circulation, and an evaluation of roadway segment capacities.

6.1 PROPOSED SITE ACCESS DRIVEWAYS AND QUEUES

Site access will be provided via the intersection of Utica Avenue at 25th Street. The location where 25th intersects Utica Avenue would be relocated approximately 1,000 feet from the I-5 southbound ramps interchange. Both streets are currently paved, two-lane roads with a yellow centerline and no turn pockets or medians. With project implementation under Phase 1, Utica Avenue would be widened to provide an additional lane between the 25th Avenue, Utica Avenue intersection and the I-5 southbound ramp/Utica Avenue intersection, as shown in Figure 4. Site access to 25th Avenue would be implemented via a single lane roundabout on Utica Avenue, and site access to the proposed truck stop (PA-7 as shown in Figure 4) would be stop-controlled. The proposed project access intersection (roundabout at the 25th Avenue/Utica Avenue intersection) would operate acceptably (LOS D or better) during the AM peak hour, PM peak hour, and Friday peak hour under the interim 2023 and 2040 conditions with project traffic.

The highest turn-movement volumes at the access driveway would occur during the Friday peak hour. As shown in Table 16, Phase 1 External Trips (New+Pass-by), Fridays, at opening year (interim year 2023) during the Friday peak hour there would be 505 trips entering the Plan Area and 470 egressing the Plan Area. As shown in Table 18, Project Buildout External Trips (New+Pass-by), Fridays, at project buildout (future year 2040) during the Friday peak hour there would be 592 trips entering the Plan Area and 843 existing the Plan Area; these trips include new and pass-by trips.

An analysis consistent with the HCM methodology was performed for the 95th percentile queue for the project's major site access intersection at Utica Avenue at 25th Avenue. The site access would be developed as a roundabout. The roundabout would operate at acceptable LOS B (14.1 seconds of delay). The 95th percentile queue is the queue length that has only a 5% probability of being exceeded during the analysis period. The 95th percentile queues would be approximately 240 feet in the northbound direction, two feet in the eastbound direction, and 91 feet in the westbound direction. The anticipated queues would not adversely affect traffic on Utica Avenue in the vicinity of the off-ramps with I-5.

6.2 PROPOSED INTERNAL CIRCULATION

The mobility plan for the Specific Plan would consist of improving Utica Avenue as an arterial street from 25th Avenue to the I-5 southbound ramps as a 4-lane undivided roadway with a 74-foot right of way. The main street that would provide north-south access to and within the Plan Area would be 25th Avenue, which would be realigned to create more spacing between the proposed access roundabout to the I-5 southbound ramps and would be developed as a 2-lane undivided road with a 62-foot right

of way. Internal local streets would be developed as 2-lane undivided roads with a 32-foot curb to curb distance with a 56-foot right of way.

6.3 ROADWAY SEGMENT CAPACITY EVALUATION

The roadway network along the project frontage and in the vicinity of the project is primarily comprised by 2-lane undivided roadways, except for Utica Avenue, which under the Specific Plan would be widened to provide an additional lane in each direction between the 25th Avenue/Utica Avenue and I-5 southbound ramp/Utica Avenue intersections. A roadway segment capacity analysis was conducted at the segments in the vicinity of the project, and is provided in Table 30. This analysis was performed for the 2040 With Project Friday conditions, which represents full build-out of the project and higher baseline volumes than an average weekday.

As shown in Table 30, all relevant roadway segments would operate at acceptable levels of service (LOS D or better).

Table 30: 2040 With Project, Roadways Daily Levels of Service

Intersection	Type	Weekday		Friday	
		ADT	LOS	ADT	LOS
Utica Avenue west of 25th Avenue (south leg)	2-Lane Facility	220	B	780	B
Utica Avenue between project access eastern driveway and I- 5 southbound ramps	4-Lane Facility	12,830	B	16,040	C
Utica Avenue between I- 5 southbound ramps and I- 5 northbound ramps	2-Lane Facility	7,990	C	10,060	C
Utica Avenue between I- 5 northbound ramps and Frontage Road	2-Lane Facility	1,640	B	2,490	B
Utica Avenue east of Frontage Road	2-Lane Facility	1,640	B	2,460	B
25th Avenue south of Utica Avenue	2-Lane Facility	12,830	C	16,400	D

Source: Kittelson and Associates 2020

7 RECOMMENDATIONS

This chapter details recommended mitigation measures and other improvements in response to traffic impacts identified in this TIA.

7.1 STUDY AREA INTERSECTIONS

Recommended intersection improvements under the Interim Year 2023 and Future Year 2040 plus project scenarios are detailed below.

7.1.1 Interim Year 2023

Utica Avenue at Northbound I-5 Ramp. The addition of project traffic would cause the LOS at this intersection to degrade from acceptable LOS A to unacceptable LOS F during the Friday peak hour. Therefore, the project impact is **significant**. Converting the intersection from a two-way stop-controlled intersection to an all-way stop-controlled intersection in the interim year 2023 traffic scenario would improve operations to acceptable LOS B (11.3 seconds of delay). In addition, the 95th percentile queues would be approximately 27 feet in the northbound direction, 82 feet in the eastbound direction, and 9 feet in the westbound direction. However, this facility is under the jurisdiction of Caltrans; implementation and timing of the mitigation measure is under Caltrans control and not the County. Therefore, this impact would remain **significant and unavoidable**.

7.1.2 Future Year 2040

Southbound I-5 at SR-41 Ramps. The addition of project traffic would cause the LOS at this intersection to degrade from acceptable LOS B to unacceptable LOS F during the AM peak hour. Therefore, the project impact is **significant**. Optimizing signal timing (splits and cycle length) at this intersection would improve operations to acceptable LOS C (21.8 seconds of delay). However, this facility is under the jurisdiction of Caltrans; implementation and timing of the mitigation measure is under Caltrans control and not the County. Therefore, this impact would remain **significant and unavoidable**.

Utica Avenue at Southbound I-5 Ramp. The addition of project traffic would cause the LOS at this intersection to degrade from acceptable LOS A to unacceptable LOS E during the AM peak hour. Therefore, the project impact is **significant**. Converting the intersection from a two-way stop-controlled intersection to a roundabout would improve operations to acceptable LOS B (13.3 seconds of delay). In addition, the 95th percentile queues would be approximately 176 feet in the southbound direction, 70 feet in the eastbound direction, and 26 feet in the westbound direction. However, this facility is under the jurisdiction of Caltrans; implementation and timing of the mitigation measure is under Caltrans control and not the County. Therefore, this impact would remain **significant and unavoidable**.

Utica Avenue at Northbound I-5 Ramp. The addition of project traffic would cause the LOS at this intersection to degrade from acceptable LOS A to unacceptable LOS F during the AM peak hour, PM

peak hour, and Friday peak hour. Therefore, the project impact is **significant**. Converting the intersection from a two-way stop-controlled intersection to a roundabout would improve operations to acceptable LOS A (8.0 seconds of delay) during the AM peak hour, acceptable LOS A (9.1 seconds of delay) during the PM peak hour, and acceptable LOS B (12.0 seconds of delay) during the Friday peak hour. With this improvement, during the AM peak hour, the 95th percentile queues would be approximately 40 feet in the northbound direction, 38 feet in the eastbound direction, and 17 feet in the westbound direction. During the PM peak hour, the 95th percentile queues would be approximately 30 feet in the northbound direction, 81 feet in the eastbound direction, and 10 feet in the westbound direction. During the Friday peak hour, the 95th percentile queues would be approximately 51 feet in the northbound direction, 128 feet in the eastbound direction, and 26 feet in the westbound direction. However, this facility is under the jurisdiction of Caltrans; implementation and timing of the mitigation measure is under Caltrans control and not the County. Therefore, this impact would remain **significant and unavoidable**.

7.2 FREEWAY MAINLINE AND MERGE/DIVERGE

7.2.1 Future Year 2040

The addition of project traffic would cause the following freeway facilities to operate at an LOS below (worse) Caltrans' target of LOS C:

- I-5 Northbound at Utica Avenue on-ramp, merge (AM, PM, Friday peak hours)
- I-5 Northbound between Utica Avenue and SR-41, mainline segment (AM, PM, Friday peak hours)
- I-5 Northbound at Utica Avenue off-ramp, diverge (AM, PM, Friday peak hours)
- I-5 Northbound north of SR-41, mainline segment (AM, PM, Friday peak hours)
- I-5 Southbound south of Utica Avenue, mainline segment (AM, PM, Friday peak hours)
- I-5 Southbound at Utica Avenue Off-Ramp, diverge(AM, PM, Friday peak hours)
- I-5 Southbound between Utica Avenue and SR-41, mainline segment (AM, PM, Friday peak hours)
- I-5 Southbound at SR-41 On-Ramp, merge (AM, PM, Friday peak hours)
- I-5 Southbound north of Utica Avenue, mainline segment (AM and PM peak hours)

The freeway segments listed would perform unacceptably during the peak hours. Mitigating the identified impacts to these segments would require a complete reconstruction of the freeway and additional travel lanes. Since freeways are an interconnected system, it would not be possible, nor effective, to provide isolated spot improvements of one segment of the freeway where deficient operations are observed. Additionally, the facilities are controlled by Caltrans and not the County. Furthermore, at this time, funding has not been allocated to expand the freeway to its ultimate buildout configuration of six lanes. Therefore, this impact is deemed **significant and unavoidable**.

APPENDIX A: TRAFFIC STUDY MEMORANDUM OF UNDERSTANDING

December 4, 2019

Mr. Chuck Kinney
Deputy Director – Planning
Kings County Community Development Agency
1400 W. Lacey Blvd., Building #6
Hanford, CA 93230

Subject: Revised Memorandum of Understanding (MOU) for the Traffic Impact Analysis for the Jackson Ranch Specific Plan

PlaceWorks is preparing a traffic impact analysis for the proposed project, which consists of implementation of the Jackson Ranch Specific Plan (Specific Plan) adjacent to Interstate 5 (I-5) at the Utica Avenue off-ramp (see Figure 1, Local Vicinity and Figure 2, Project Area). The Specific Plan would result in development of the 425-acre Plan Area with innovative service and commercial uses, which will include hospitality uses, restaurants, a truck stop, employment centers, and distribution/logistics centers. Detailed land use plans and graphics are included in Attachment A.

This memorandum of understanding (MOU) describes the project and outlines the proposed methodologies and basic assumptions for the traffic impact analysis for the project. This MOU has been prepared for the California Department of Transportation District 6 (Caltrans) and Kings County for review and comment to ensure that the traffic study uses appropriate assumptions and methods to evaluate potential traffic impacts from the project. The MOU includes a trip generation estimate for the project, trip distribution, a list of study area facilities to be evaluated, and identification of ambient growth rate and scenarios to be evaluated.

Project Trip Generation

Trip generation rates for the proposed project were determined for daily, and peak hour traffic in the morning (7 to 9 AM) and evening (4 to 6 PM) hours. The trip generation rates have been published by the Institute of Transportation Engineers (ITE) Trip Generation Manual (10th edition) for the land uses that correspond to the project. Table 1 shows the land use correspondence of each planning area and proposed land use with the land use codes in ITE's Trip Generation Manual. Table 2 shows published ITE trip generation rates for the weekday AM and PM peak hours and daily trips.

A trip generation study was performed (see Attachment B) to verify the applicability of the use of ITE trip generation rates. The study was conducted to adjust the trip generation rates for freeway commercial developments in rural settings. The study indicated that trip rates for freeway commercial developments generate approximately 3 times less trips compared to the same type of developments in urban areas. To adjust the trip rates the following factors were applied for:

- AM peak hour = 3.06
- PM peak hour = 2.40
- Daily= 2.77

The trip rate reductions are supported by the following:

- The project is located off I-5, a major freeway that serves regional and interstate traffic. Currently, motorists have few choices for fuel, food, and other travel-related services along I-5. The nearest services are approximately 5 miles to the north and approximately 25 miles to the south.

- The region primarily consists of agricultural uses. The population of communities in the area such as Kettleman City, Stratford, Lemoore, Hanford, Lost Hills, Avenal, and others have a relatively small populations and workforces (see Attachment C). Therefore, communities have limited populations and workers that can support the proposed uses.

- Nearby communities already provide services and retail uses similar to the project. Given that the distance to the nearby communities such as Avenal, Kettleman City, and others is more than 5 miles, it is not expected that patrons would travel over 5 miles to buy a product that they can likely purchase in their own communities.

- A significant portion of the project site is designated commercial thoroughfare (CT) in the Specific Plan, and the project is designed to provide a safe stop for travelers along I-5. It is envisioned as a sophisticated transportation plaza, delivering food, lodging, amenities, and services to both professional and leisure travelers along I-5.

Therefore, it is anticipated that the services and retail uses that are part of the project would mostly cater to pass-by patrons already travelling on I-5 and would generate less trips compared to land uses in urban areas.

Table 3 shows the trip generation rates that were adjusted for retail, restaurants, gas station and hotel/motel uses. The trip rates for light industrial, warehouses and truck stop were not adjusted.

Table 1 Trip Generation Land Use Correspondence

Land Use	Parcel Key/Planning Area	ITE LU	ITE Code
Retail	S1, S2, S3	Shopping Center	820
Restaurant	F1, F2, F3	Fast-Food Restaurant w/ Drive-thru	934
Restaurant	R1, R2	High-Turnover Sit-Down Restaurant	932
Gas Station	G1, G2	Super Convenience Market/Gas Station	960
Hotel	H1, H2	Motel	320
Freeway Incubator	P-9, P-10, P-11, P-18, P-19, P-21	Light Industrial	110
Business Center	P-7, P-8, P-12, P-13, P-14, P-15, P-16, P-17, P-20,P- 22, P-23, P-24	High-Cube Warehouse (Transload)	154
Employment	N/A	Light Industrial	110
Truck Stop	T1	Truck Stop	950

Table 2 Published ITE Trip Generation Rates

Land Use	ITE Code	Unit	Trip Generation[1]						
			Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Shopping Center	820	TSF	118.56	8.17	5.00	13.17	4.53	4.91	9.43
Fast-Food Restaurant with Drive-Thru Window	934	TSF	470.95	20.50	19.69	40.19	16.99	15.68	32.67
High-Turnover (Site-Down) Restaurant	932	TSF	112.18	5.47	4.47	9.94	6.06	3.71	9.77
Super Convenience Market/Gas Station	960	FP	230.52	14.04	14.04	28.08	11.48	11.48	22.96
Motel	320	Rooms	3.35	0.14	0.24	0.38	0.21	0.17	0.38
General Light Industrial (Freeway Incubator)	110	TSF	4.96	0.62	0.08	0.70	0.08	0.55	0.63
High-Cube Warehouse (Transload)	154	TSF	1.40	0.06	0.02	0.08	0.03	0.07	0.10
Truck Stop	950	TSF	455.53	13.25	13.25	26.49	12.05	10.68	22.73

[1] Trip generation rates for peak hour of adjacent streets, per the ITE Trip Generation Manual 10th Edition.

[2] TSF=thousand square feet. FP= Fueling Positions;

Table 3 Project Adjusted Trip Generation Rates

Land Use	ITE Code	Unit	Trip Generation Rate						
			Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Shopping Center		TSF	42.80	2.67	1.63	4.30	1.89	2.05	3.93
Fast-Food Restaurant with Drive-Thru Window		TSF	170.02	6.70	6.44	13.13	7.08	6.53	13.61
High-Turnover (Site-Down) Restaurant		TSF	40.50	1.79	1.46	3.25	2.52	1.55	4.07
Super Convenience Market/Gas Station		FP	83.22	4.59	4.59	9.18	4.78	4.78	9.57
Motel		Rooms	1.21	0.05	0.08	0.12	0.09	0.07	0.16
General Light Industrial (Freeway Incubator)	110	TSF	4.96	0.62	0.08	0.70	0.08	0.55	0.63
High-Cube Warehouse (Transload)	154	TSF	1.40	0.06	0.02	0.08	0.03	0.07	0.10
Truck Stop	950	TSF	455.53	13.25	13.25	26.49	12.05	10.68	22.73

[1] Trip generation rates used for General Light Industrial, High-Cube Warehouse, and Truck Stop land uses, per the ITE Trip Generation Manual 10th Edition.

[2] TSF=thousand square feet. FP= Fueling Positions;

Grey cells indicate land uses with adjusted trip rates.

Pass-by rates for daily and AM peak hour were provided from the ITE Trip Generation Handbook (3rd edition). As previously discussed, the proposed services and retail uses would mostly cater to pass-by patrons already travelling on I-5. Table 4 shows the pass-by rates for the several land uses used in this analysis.

Table 4 Pass-by Rates

Land Use	ITE Code	Tables	Pass-by Rates[1]		
			Daily	Peak Hour	
				AM	PM
Shopping Center	820	E.9 p 200	34%	34%	34%
Fast-Food Restaurant with Drive-Thru Window	934	E.31 & E.32 p223–224	49%	49%	50%
High-Turnover (Sit-Down) Restaurant	932	E.30 p221	43%	43%	43%
Super Convenience Market/Gas Station	960	E.37 & E.38 p227, 229	56%	62%	56%
Motel	320		0%	0%	0%
General Light Industrial (Freeway Incubator)	110		0%	0%	0%
High-Cube Warehouse (Transload)	154		0%	0%	0%
Truck Stop	950	E.35 & E.36 p226–227	42%	58%	42%

[1] Pass-by rates per the ITE Trip Generation Handbook 3rd edition.

Internal capture trips were calculated based on NCHRP 684 and are included in Attachment D. For the purpose of calculating internal capture trips, retail trips include trips to the gas stations, as several patrons that normally fuel also go to restaurants when they stop at highway commercial and service developments. The calculated internal capture rates for Phase 1 would be 11.6% in the AM peak hour and 23% in the PM peak hour. For Phase 2 the internal capture rates would be 16% in the AM peak hour and 24% in the PM peak hour. However, Caltrans believes that the NCHRP 684 methodology does not apply in rural locations and requested that the internal capture be capped at 5%. Therefore, for the purpose of this analysis the internal capture is limited to 5% of the total trips.

Table 5 shows the total external trips with Phase 1 of the Specific Plan (including credits due to internal capture). Table 6 shows the net total new trips by taking into account pass-by trip reductions according to the pass-by percentages in Table 4. Table 7 shows the Phase 1 pass-by trips.

Tables 8, 9 and 10 show the trip generation for project buildout (Phase 1 + Phase2) for total trips, new trips, and pass-by trips.

The trip generation calculations may be refined and adjusted according to the axle counts that will be taken at study roadways. A passenger car equivalent (PCE) factor to adjust the trip generation estimates may be utilized and will be conducted upon a review of traffic count data and consultation with the County and Caltrans.

Project Trip Distribution

Project trip distribution was based on a review of the land uses and the circulation network in the region, and based on employment data. The project is designed to provide services for travelers on I-5. The communities in the area, such as Kettleman City, Stratford, Lemoore, Hanford, Lost Hills, Avenal, and others, have relatively small populations and workforces.

The trip distribution also considered the distance to the nearest highway commercial and service developments along I-5. The closest ones are approximately 10 miles to the north, just off SR-41 in Kettleman City, and approximately 25 miles to the south, just off SR-41 in the community of Lost Hills.

It is anticipated that 20% of the new trips would be to/from the southeast, 10% to/from the west, 10% to/from the east, 30% to/from the northwest, and 30% to/from the northeast, as shown on Figure 4, *Project Trip Distribution, Non-Pass-by Trips.*

Figure 5, *Project Trip Distribution, Pass-by Trips,* shows the trip distribution for pass-by trips that are captured by travelers already on the I-5 and SR-41. It is anticipated that pass-by trips would be 45% on I-5 to/from the south, 45% on I-5 to/from the north, 5% on SR-41 to/from the west, and 5% of SR-41 to/from the east.

Attachment E shows the trip distribution turn movement volumes percentages in the study area for new trips and pass-by trips.

Table 5 Phase 1 External Trips (New+Pass-by)

Land Use	Parcel Key	Quantity	Units[2]	Trip Generation[1]						
				Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Retail	S1, S2, S3	11.98	TSF	513	32	20	52	23	25	48
Restaurant	F1, F2, F3	9.85	TSF	1674	66	63	129	70	64	134
Restaurant	R1, R2	10.03	TSF	406	18	15	33	25	16	41
Gas Station	G1, G2	32	FP	2663	147	147	294	153	153	306
Hotel	H1, H2	187	Rooms	226	9	15	24	16	14	30
Truck Stop	T1	10.89	TSF	4,962	144	144	288	131	116	247
Internal Capture				-522	-21	-20	-41	-21	-19	-40
Phase 1 Total External Trips				*9,922*	*395*	*384*	779	*397*	*369*	*766*

[1] For Land Use Plan June 18, 2019.

[2] TSF= Thousand Square Feet, FP= Fueling Positions

Table 6 Project Phase 1 Net Trip Generation (New Trips)

Land Use	Parcel Key	Quantity	Units[2]	Trip Generation[1]						
				Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Retail	S1, S2, S3	11.98	TSF	338	21	13	34	15	17	32
Restaurant	F1, F2, F3	9.85	TSF	854	34	32	66	35	32	67
Restaurant	R1, R2	10.03	TSF	231	10	9	19	14	9	23
Gas Station	G1, G2	32	FP	1,172	56	56	112	67	67	134
Hotel	H1, H2	187	Rooms	226	9	15	24	16	14	30
Truck Stop	T1	10.89	TSF	2,878	60	60	120	76	67	143
Internal Capture				-285	-10	-9	-19	-11	-10	-21
Phase 1 Total External Trips				*5,414*	*181*	*176*	356	*212*	*196*	*408*

[1] For Land Use Plan June 18, 2019.

[2] TSF= Thousand Square Feet, FP= Fueling Positions

Table 7 Project Phase 1 Passby Trips

Land Use	Parcel Key	Quantity	Units[2]	Trip Generation[1]						
				Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Retail	S1, S2, S3	11.98	TSF	175	11	7	18	8	8	16
Restaurant	F1, F2, F3	9.85	TSF	820	32	31	63	35	32	67
Restaurant	R1, R2	10.03	TSF	175	8	6	14	11	7	18
Gas Station	G1, G2	32	FP	1,491	91	91	182	86	86	172
Hotel	H1, H2	187	Rooms	0	0	0	0	0	0	0
Truck Stop	T1	10.89	TSF	2,084	84	84	168	55	49	104
Internal Capture				-237	-11	-11	-22	-10	-9	-19
Phase 1 Pass-by Trips				*4,508*	*215*	*208*	*423*	*185*	*173*	*358*

[1] For Land Use Plan June 18, 2019.

[2] TSF= Thousand Square Feet, FP= Fueling Positions

Table 8 Project Buildout External Trips (New+Pass-by)

Phase	Land Use	Parcel Key	Quantity	Units[2]	Trip Generation[1]						
					Daily	AM Peak Hour			PM Peak Hour		
						In	Out	Total	In	Out	Total
Phase 1	Retail	S1, S2, S3	11.98	TSF	513	32	20	52	23	25	48
	Restaurant	F1, F2, F3	9.85	TSF	1,674	66	63	129	70	64	134
	Restaurant	R1, R2	10.03	TSF	406	18	15	33	25	16	41
	Gas Station	G1, G2	32	FP	2,663	147	147	294	153	153	306
	Hotel	H1, H2	187	Rooms	226	9	15	24	16	14	30
	Truck Stop	T1	10.89	TSF	4,962	144	144	288	131	116	247
Phase 2	Freeway Incubator	9, 10, 11, 18, 19, 21	470.4	TSF	2,333	290	40	330	39	258	297
	Business Center	7, 8, 12, 13, 14, 15, 16, 17, 20, 22, 23, 24	1,864.10	TSF	2,610	115	34	149	52	134	186
	Internal Capture (5% of total)				-769	-41	-24	-65	-25	-39	-64
Project Buildout Total External Trips					14,618	780	454	1,234	484	741	1,225

[1] For Land Use Plan June 18, 2019.

[2] TSF= Thousand Square Feet, FP= Fueling Positions

Table 9 Project Buildout Net Trip Generation (New Trips)

Phase	Land Use	Parcel Key	Quantity	Units[2]	Trip Generation[1]						
					Daily	AM Peak Hour			PM Peak Hour		
						In	Out	Total	In	Out	Total
Phase 1	Retail	S1, S2, S3	11.98	TSF	339	21	13	34	15	17	32
	Restaurant	F1, F2, F3	9.85	TSF	854	34	32	66	35	32	67
	Restaurant	R1, R2	10.03	TSF	231	10	9	19	14	9	23
	Gas Station	G1, G2	32	FP	1012	56	56	112	67	67	134
	Hotel	H1, H2	187	Rooms	226	9	15	24	16	14	30
	Truck Stop	T1	10.89	TSF	2,084	60	60	120	76	67	143
Phase 2	Freeway Incubator	9, 10, 11, 18, 19, 21	470.4	TSF	2,333	290	40	330	39	258	297
	Business Center	7, 8, 12, 13, 14, 15, 16, 17, 20, 22, 23, 24	1,864.10	TSF	2,610	115	34	149	52	134	186
	Internal Capture (5% of total)				-484	-30	-13	-43	-16	-30	-46
Project Buildout Net Trip Generation					9,205	565	246	811	298	568	866

[1] For Land Use Plan June 18, 2019.

[2] TSF= Thousand Square Feet, FP= Fueling Positions

Table 10 Project Buildout Pass-by Trips

Phase	Land Use	Parcel Key	Quantity	Units[2]	Trip Generation[1]						
					Daily	AM Peak Hour			PM Peak Hour		
						In	Out	Total	In	Out	Total
Phase 1	Retail	S1, S2, S3	11.98	TSF	174	11	7	18	8	8	16
	Restaurant	F1, F2, F3	9.85	TSF	820	32	31	63	35	32	67
	Restaurant	R1, R2	10.03	TSF	175	8	6	14	11	7	18
	Gas Station	G1, G2	32	FP	1,651	91	91	182	86	86	172
	Hotel	H1, H2	187	Rooms	0	0	0	0	0	0	0
	Truck Stop	T1	10.89	TSF	2,878	84	84	168	55	49	104
Phase 2	Freeway Incubator	9, 10, 11, 18, 19, 21	470.4	TSF	0	0	0	0	0	0	0
	Business Center	7, 8, 12, 13, 14, 15, 16, 17, 20, 22, 23, 24	1,864.10	TSF	0	0	0	0	0	0	0
Project Buildout Pass-by Trips					5,698	226	219	445	195	182	377

[1] For Land Use Plan June 18, 2019.

[2] TSF= Thousand Square Feet, FP= Fueling Positions

Study Area

STUDY INTERSECTIONS

Based on preliminary trip generation and trip distribution estimates, the following existing intersections (see Figure 6, *Study Intersections*) will be analyzed:

1. Southbound I-5 at SR-41 Ramps
2. Northbound I-5 at SR-41 Ramps
3. Bernard Drive at SR-41
4. 25th Avenue at SR-41
5. Utica Avenue at 25th Avenue
6. Utica Avenue at Southbound I-5 Ramp
7. Utica Avenue at Northbound I-5 Ramp
8. Utica Avenue at Frontage Road

Vehicular access to the development site will be via Utica Avenue and 25th Avenue. Both roadways will provide direct access to the proposed driveways for the project. These access driveway intersections will also be evaluated.

STUDY ROADWAY SEGMENTS

The following roadway segments will be analyzed (see Figure 7, *Study Corridors*):

- Utica Avenue west of 25th Avenue (south leg)
- Utica Avenue between 25th Avenue and project access eastern driveway
- Utica Avenue between project access eastern driveway and I- 5 southbound ramps
- Utica Avenue between I- 5 southbound ramps and I- 5 northbound ramps
- Utica Avenue between I- 5 northbound ramps and Frontage Road
- Utica Avenue east of Frontage Road
- 25th Avenue south of Utica Avenue
- 25th Avenue north of Utica Avenue

STUDY FREEWAY SEGMENTS

The following freeway segments and ramps will be analyzed:

- Main-line LOS and merge/diverge (each direction N/S, E/W):
    - I-5 Freeway south of Utica Avenue
    - I-5 Freeway between Utica Avenue and SR-41
    - I-5 Freeway north of SR-41
    - SR-41 between I-5 northbound ramps and Bernard Drive

- Freeway ramps queuing and capacity:
    - I-5 northbound at Utica Avenue
    - I-5 southbound at Utica Avenue
    - I-5 northbound off-ramp at SR-41
    - I-5 on-ramp at SR-41

Methodology

The analysis will be prepared using guidelines and methodologies in coordination with Kings County and Caltrans. All Caltrans' study intersections and freeway system facilities will be analyzed according to measures of effectiveness described in Caltrans' Guide for the Preparation of Traffic Impact Studies (December 2002). In conformance with Caltrans' requirements, freeway facilities (intersections, ramps and segments) will be evaluated using the latest Highway Capacity Method (HCM), which is the 6th edition.

INTERSECTIONS

Per the HCM methodology, the overall weighted average delay will be calculated at signalized and all-way-stop intersections, and the worst-case approach delay will be calculated at two-way stop-controlled intersections. The level of service corresponds to the delay calculated.

PlaceWorks conducted a site visit in the study area to verify existing traffic control devices and approach lanes, and to identify the number of existing roadway thru lanes and topography. Traffic counts at intersections were collected by National Data & Surveying Services on September 18, 2018, and will utilized for the analysis.

The intersection level of service (LOS) analysis is based on the traffic volumes observed during the peak hour conditions from 7 to 9 AM and from 4 to 6 PM.

Signal warrants based on Warrant 3, peak hour criteria will be provided for the consideration of a traffic signal at unsignalized locations. This study will also include consideration of a roundabout in lieu of a traffic control signal at the Utica Avenue at the I-5 interchange.

ROADWAY SEGMENTS

In conformance with the County's General Plan Circulation Element, roadway segments in unincorporated County are outside Caltrans' jurisdiction will be evaluated according to Table 11, Level of Service Threshold Volumes, criteria. Traffic counts at roadway segments were collected by National Data & Surveying Services on September 18, 2018.

Table 11 Kings County Level of Service Threshold Volumes[1]

	Total Daily Vehicles in Both Directions (ADT)				
Roadway Type	Level of Service A	Level of Service B	Level of Service C	Level of Service D	Level of Service E
6-Lane Freeway	36,900	61,100	85,300	103,600	115,300
4-Lane Freeway	23,800	39,600	55,200	67,100	74,600
6-Lane Arterial	7,300	44,700	52,100	53,500	———
4-Lane Arterial (turn lanes)	4,800	29,300	34,700	35,700	———
4-Lane Collector	2,400	14,650	17,350	17,850	———
2-Lane Facility	———	4,200	13,800	16,400	16,900

[1] Source: 2035 Kings County General Plan Circulation Element.

FREEWAY MAINLINE SEGMENTS AND MERGE/DIVERGE

Freeway segments hourly and daily traffic volumes were collected from Caltrans' PeMS analytics software in the fall of 2018. Future forecasts will be based on a review of the Caltrans' Statewide Travel Demand Model and forecasts included in the Transportation Route Concept for Route 5 and Route 41. Any potential improvements in the freeway system anticipated to be operational under long-range conditions will be included as part of the future roadway network. The HCS software will be utilized to evaluate freeway facilities.

Traffic Counts

Roadway-volume 24-hour counts were taken on Utica Avenue west of 25th Avenue, and on Utica Avenue between the northbound and southbound I-5 ramps. In addition, intersection turn movement volume counts were taken at Utica Avenue at the I-5 interchange. All traffic counts were collected on Tuesday September 18, 2018. See Attachment F for traffic counts.

New traffic axle classification counts will be taken at the study roadways, and peak hour intersection counts will be taken at study intersections during the 7–9 AM and 4–6 PM peak hours.

Scenarios

The following scenarios will be provided in this study:

» Existing
» Near Term (Phase 1) Without Project
» Near Term (Phase 1) With Phase 1 Project
» 2040 Without Project
» 2040 With Project Buildout

Site Access

The traffic study will evaluate the safety of the egress and ingress at the proposed access driveways based on adequacy of sight distance for project traffic entering and exiting the project site, and queuing. The analysis will provide a Synchro simulation for the site access driveway intersections and the interchanges on Utica Avenue at I-5. In addition, striping and left-turn pockets will be determined to accommodate the future traffic volumes with the project.

Please review the assumptions and authorize so we can proceed. Or feel free to call if you have any questions or would like to discuss. Respectfully submitted,

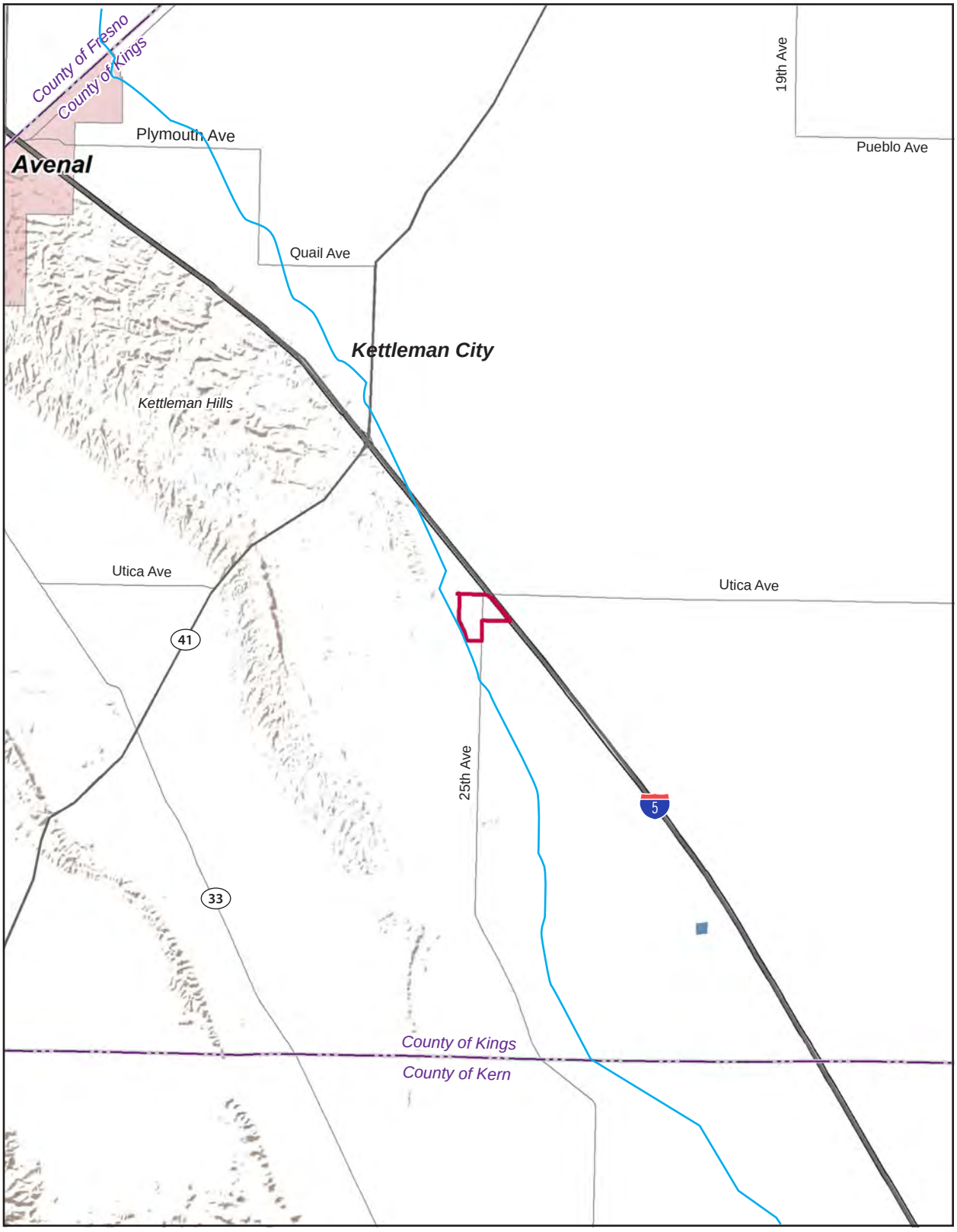
FERNANDO SOTELO, PE, PTP
Senior Associate

PLACEWORKS

3 MacArthur Place, Suite 1100 | Santa Ana, California 92707
714.966.9220 | fsotelo@placeworks.com | placeworks.com

FIGURES

Figure 1 - Regional Location



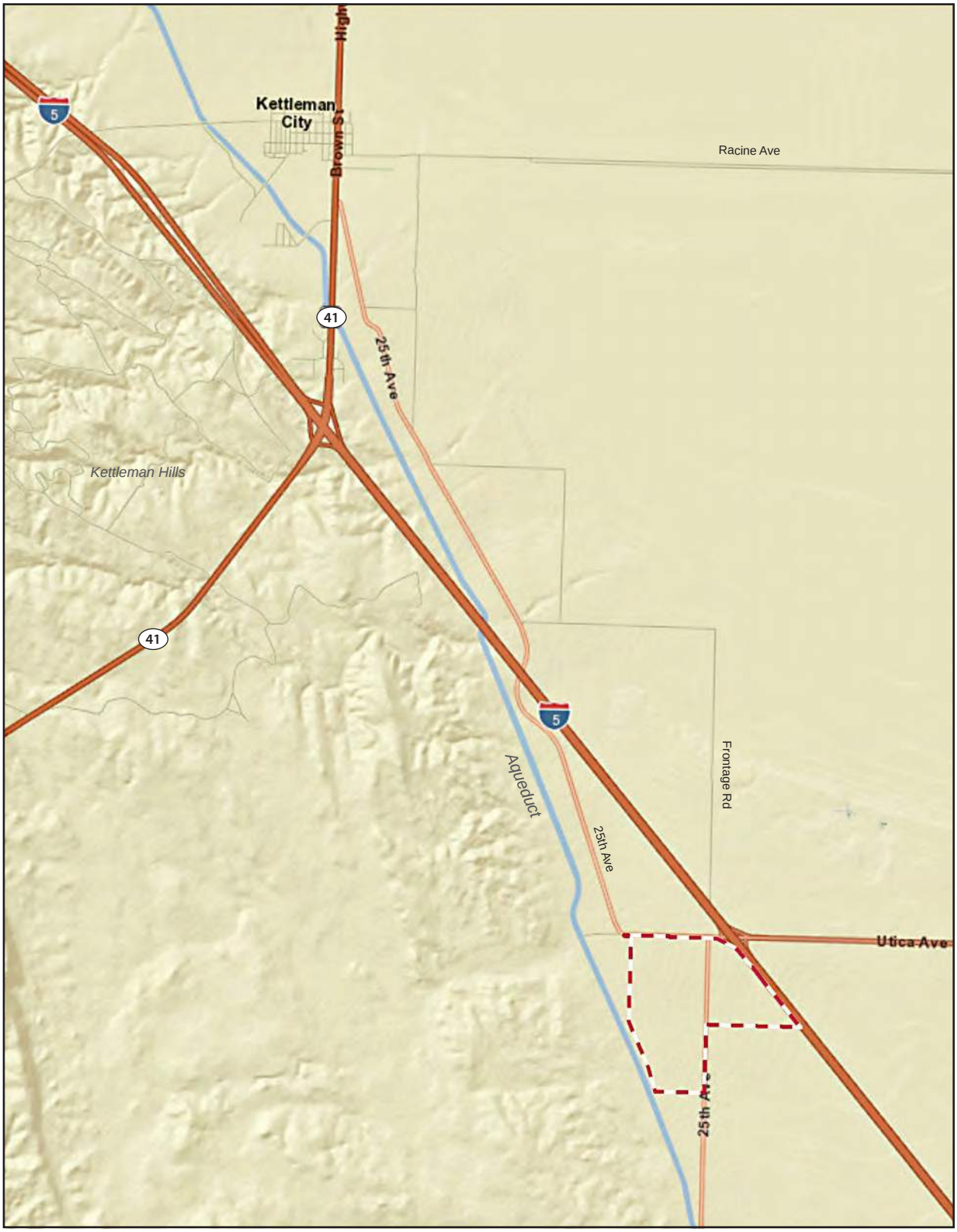
Project Boundary

0 3
Scale (Miles)

Source: ESRI, 2019

PlaceWorks

Figure 2 - Local Vicinity



Project Boundary

0 1
Scale (Miles)

Source: ESRI, 2019

PlaceWorks

Figure 3 - Specific Plan Area Boundary



Project Boundary

0 1,000
Scale (Feet)

Source: ESRI, 2019

PlaceWorks

Figure 4 - Project Trip Distribution, Non Pass-By Trips

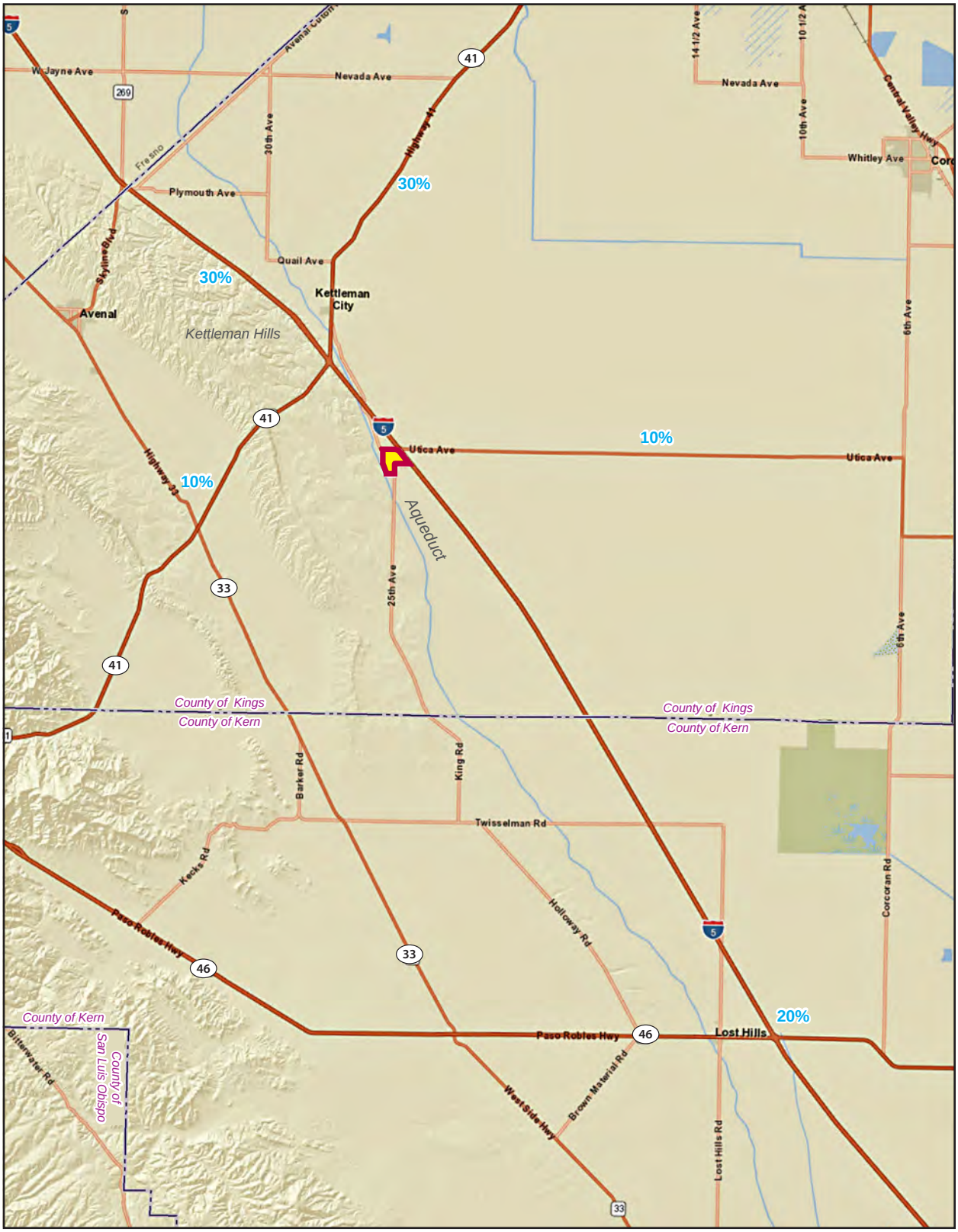
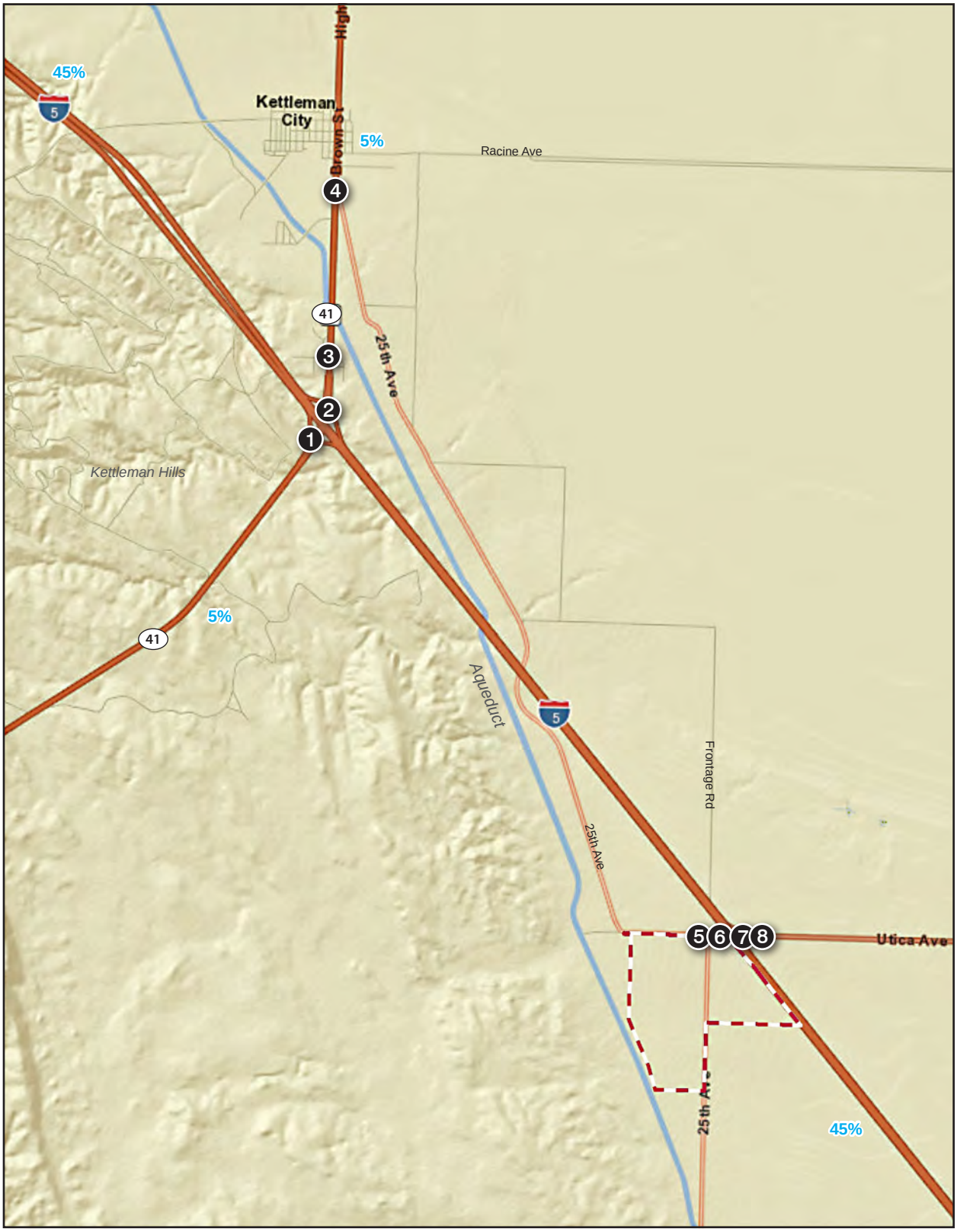


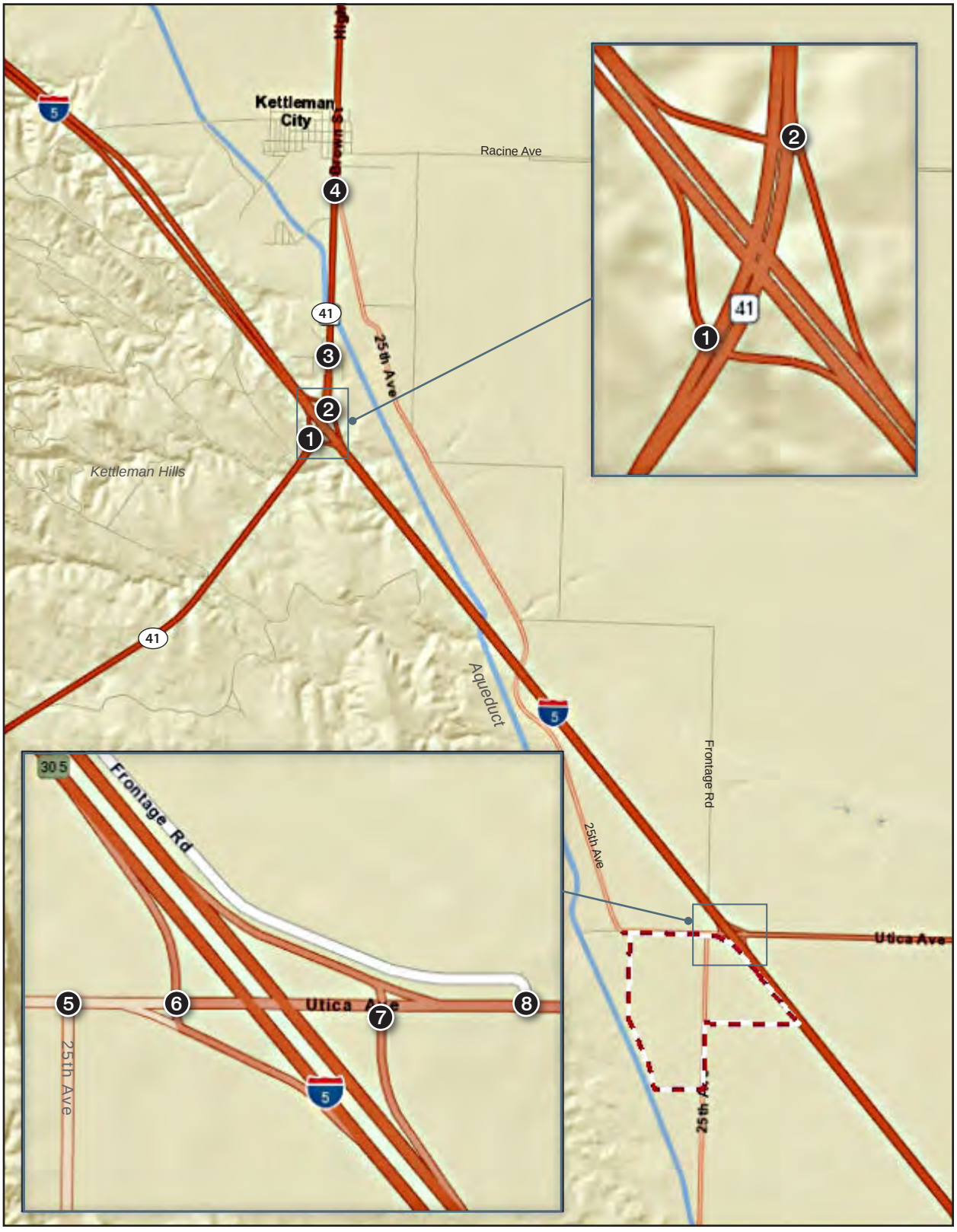
Figure 5 - Project Trip Distribution, Pass-By Trips



Source: ESRI, 2019

PlaceWorks

Figure 6 - Study Intersections



Project Boundary

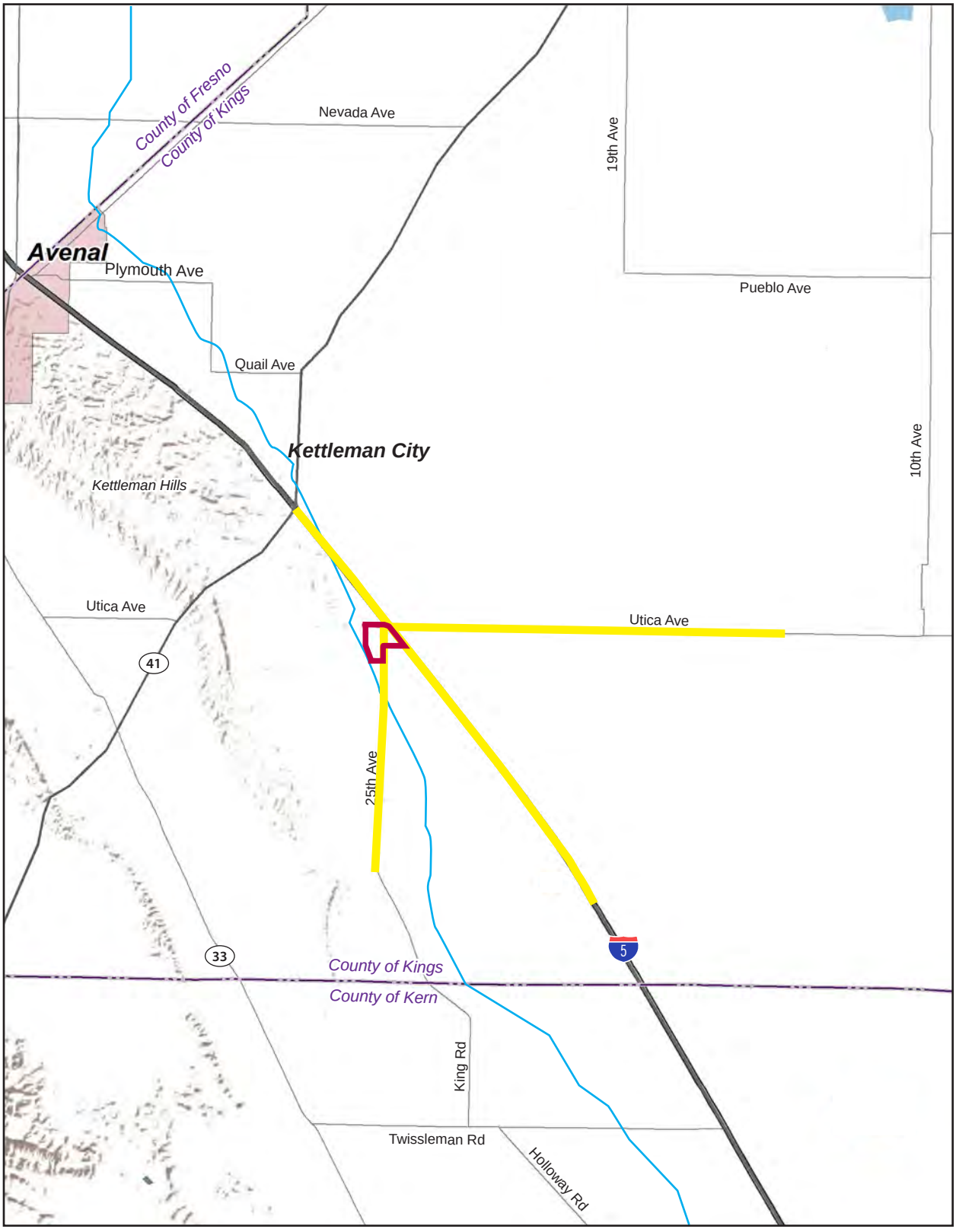
Intersection Location Number

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Scale (Miles)

Source: ESRI, 2019

PlaceWorks

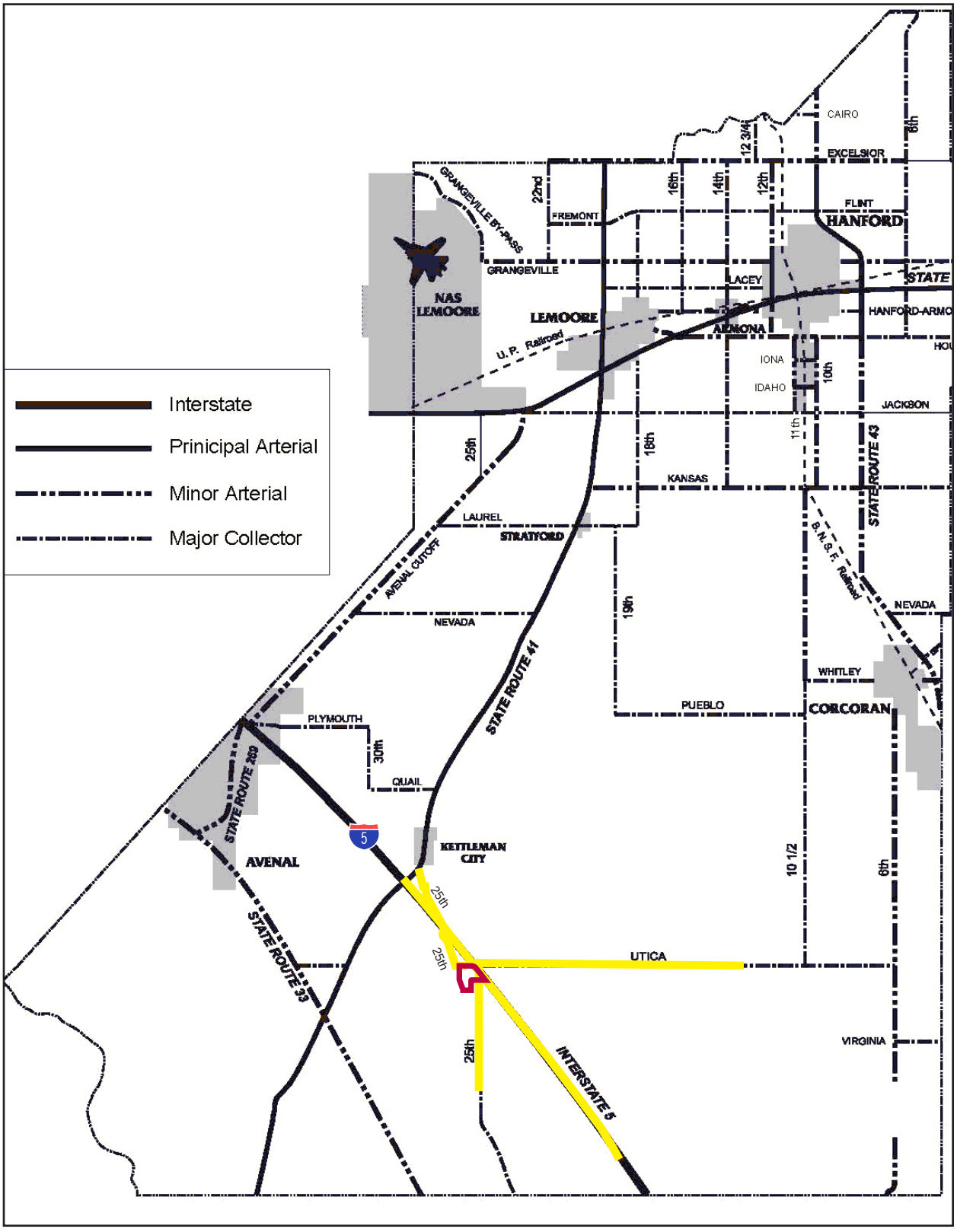
Figure 4 - Study Corridors



Source: ESRI, 2019

PlaceWorks

Figure 7 - Study Corridors and Circulation Network



Source: 2035 Kings County General Plan Circulation Element

PlaceWorks

Attachment A: Project Information

UTICA AVENUE

P-1
10.0 AC

P-2
2.3 AC

P-3
4.5 AC

P-4
4.3 AC

P-5
2.7 AC

P-6
5.0 AC

P-7
7.5 AC

P-8
7.5 AC

P-9
4.7 AC

P-10
3.5 AC

P-11
4.7 AC

P-12
6.1 AC

P-13
8.0 AC

P-14
7.6 AC

P-15
8.0 AC

P-16
7.9 AC

P-17
10.7 AC

P-18
6.8 AC

P-20
6.6 AC

P-21
4.3 AC

P-22
9.9 AC

P-23
7.7 AC

P-24
7.6 AC

P-25
50.0 AC

P-26
55.5AC

P-27
87.4 AC

P-28
69.5 AC

25TH AVENUE

5

CALIFORNIA AQUEDUCT

LAND USE SUMMARY

LAND USE	ACRE	FAR	MAX. BUILDING SQ.FT.
Commercial Thoroughfare (CT-JR)	23.4	Varies	161,245
Innovation Center (IC-JR)	119.1	0.45	2,334,597
Public (P-JR)	5.0	--	--
SpecialtyAgriculture (A-JR)	206.9	--	--
Specialty Agriculture with Air Strip Overlay (A-JR)	55.5	--	--
Streets	14.6		
TOTAL	**424.9**		**2,495,842**

Jackson Ranch
KINGS COUNTY, CA

CONCEPTUAL LAND USE PLAN

N

0’ 200’ 400’ 800’
1”=200’ Scale

July 11, 2019

PLACEWORKS

UTICA AVENUE

25TH AVENUE

5 FREEWAY

EXIT

ENTRY

EXIT

PARCEL A

TRUCK STOP
10,892 SF
T1

44 parking spaces

PARKING 66 CARS

PARKING 149 TRUCKS

10 ACRES

PARCEL B

FAST FOOD
3,320 SF
F1

23 parking spaces

.75 ACRES

PARKING 25 CARS

PARCEL C

FAST FOOD
2,300 SF
F2

16 parking spaces

.75 ACRES

PARKING 22 CARS

PARCEL D

FAST FOOD
4,227 SF
F3

28 parking spaces

.75 ACRES

PARKING 28 CARS

EMPLOYEE PARKING

PARCEL E

.82 ACRES

PARKING 54 CARS

RETAIL
5,005 SF
S1

20 parking spaces

PARCEL F
1.8 ACRES

MONUMENT SIGN

PARKING 38 CARS

PARKING 21 CARS

PARKING 20 CARS

PARCEL H

RESTAURANT
5,013 SF
R1

24 parking spaces

PARKING 36 CARS

.63 ACRES

PARK
75 ACRES
32,704 SF

WATER TOWER

PARCEL I

RESTAURANT
5,013 SF
R2

24 parking spaces

.51 ACRES

PARCEL J

RETAIL
3,735 SF
S2

15 parking spaces

.34 ACRES

PARCEL K

RETAIL
3,240 SF
S3

13 parking spaces

.45 ACRES

GAS STATION
5,400 SF
G1

TRASH INCLOSURE

FREEWAY POLE SIGN

PARCEL G
1.9 ACRES

GAS STATION
6,969 SF
G2

PARCEL L

DROP-OFF

HOTEL
56,651 SF 4 LEVELS
107 KEYS
H1

1.9 ACRES

PARKING 108 CARS

15.55 ACRES

E.V. CHARGING

PARCEL M

DROP-OFF

HOTEL
49,480 SF 4 LEVELS
80 KEYS
H2

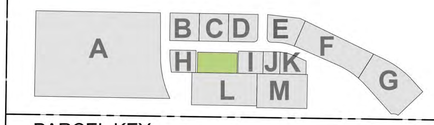
.59 ACRES

PARKING 126 CARS

FIBER OPTIC CABLE

JACKSON RANCH PARCEL SUMMARY

KEY COLOR	PARCEL	USE	KEY N0.	BUILDING AREA SQUARE FEET	SITE AREA ACRES
	A	TRUCK STOP	T1	10,892	10
	B	FAST FOOD	F1	3,320	0.75
	C	FAST FOOD	F2	2,300	0.75
	D	FAST FOOD	F3	4,227	0.75
	E	RETAIL	S1	5,005	0.82
	F	GAS STATION	G1	5,400	1.8
	G	GAS STATION	G2	6,969	1.9
	H	RESTAURANT	R1	5,013	0.63
	I	RESTAURANT	R2	5,013	0.51
	J	RETAIL	S2	3,735	0.34
	K	RETAIL	S3	3,240	0.45
	L	HOTEL 1	H1	56,651	1.9
	M	HOTEL 2	H2	49,480	1.59



PARCEL KEY

0 10' 50' 200'

JACKSON RANCH

PHASE 1

Kings County, California

JUNE 18, 2019

Attachment B: Trip Generation Study

DATE	December 4, 2019
TO	Caltrans, District 6
CONTACT	Chuck Kinney, Deputy Director – Planning
FROM	Fernando Sotelo, PE, PTP
SUBJECT	**Jackson Ranch Specific Plan – Review of Traffic Generation**
PROJECT NUMBER	UPA-02

This memo revisits the traditional published traffic generation estimation techniques to tailor trip estimation for the project site, which is located in a rural area and will mostly provide services for travelers on Interstate 5 (I-5). Traditionally, the most widely-recognized source for data on how much traffic various types of land uses generate is the ITE *Trip Generation Manual*. However, for the proposed Jackson Ranch project we believe that the project trip generation is relatively high in comparison to existing and future traffic on I-5 and that the number of trips is high for a project in a rural area far from a major urban area.

The Plan Area is approximately 70 miles northwest of the City of Bakersfield and 70 miles southwest of the City of Fresno. The nearest urbanized area to the Plan Area is Kettleman City, an unincorporated community of the County approximately 6 miles to the northwest. This memo compares trip generation calculations with driveway counts, for comparable sites to the Jackson Ranch Specific Plan. The commercial developments studied are located off the 1-5:

- **Panoche site:** The commercial development at Panoche Road west of the I-5 southbound ramps in Firebaugh, in Fresno County, CA, is a mix of restaurants, hotel, gas stations, and convenience markets. The site is bounded by the southern Coast Ranges to the west and surrounded by agricultural uses in all other directions. The closest settlement is the City of Mendota, which is approximately 15 miles away. Panoche Road has one lane in each direction and runs roughly east-west with the southbound exit and entrance ramps adjacent to the study area. Counts at the site were taken on the north and south sides of the street. Services north of Panoche Road are accessed by a single, shared driveway that provides access to two gas stations with convenience markets, a stand-alone convenience market, and a fast-food restaurant. Several parking spaces, adjacent to the stand alone convenience market are provided on the street west of the site entrance. On the northernmost portion of the site are a Best Western Inn with 74 guest rooms and a long-closed restaurant. To the south of Panoche Road are two gas stations with convenience markets and a fast-food restaurant with a drive thru window. These services are accessed by a single, shared driveway and an east-west access street.

- **Stockdale site:** The commercial development at Stockdale Highway east of the 1-5 northbound ramps near Bakersfield, CA, is a mix of uses. There is limited development surrounding the site with agricultural uses dominating the surrounding area. The outskirts of the City of Bakersfield region are approximately 8 miles to the east. The Stockdale study area is south of Stockdale Highway, which has a single lane in each direction. Access to the site is from a looped access road with two entrances

and four driveways. The traffic generated for each use cannot be disaggregated as persons entering one use or road may be accessing multiple uses. Uses adjacent to Stockdale Highway are two gas stations each with a convenience market that shares a building with two fast-food restaurants - one with, and one without, a drive-thru window. In the southern portion of the site is a fast-food restaurant with a drive-thru window and two motels with a combined 100 guest rooms. There is a diesel fuel station with eight pumps associated with another gas station.

- Westley site: The site is along Howard Road parallel to the I-5 Freeway northbound ramps at Ingram Creek Road near Westley, CA.. Howard Road is a single lane in each direction with a center turn lane. North of the Westley study area are three motels, a restaurant and a truck stop. There are few connecting streets and little residential or commercial development nearby – the City of Patterson is roughly 7 miles away and Westley, a census-designated place with 600 people, is 4 miles away – therefore a majority of the observed vehicles are likely accessing the site from the freeway. This commercial development is a mix of two fast food restaurants with drive-thru lanes; two gas stations with convenience markets; and a hotel with 65 guest rooms. Each site has one to two exclusive access driveways thus counts could be conducted for each site individually.

The following describes the methodology to compare published rates and observed vehicular trips at these developments.

Calculated Trip Generation

The trip generation calculations for the studied sites were performed based on trip rates in ITE's *Trip Generation Manual*, 10th Edition. The calculations were based on a review of existing uses that are currently operating, a review of their building areas from aerial photography and using the applicable rates for each land uses. The calculations were provided for the AM peak, PM peak, and daily trips. Appendix A presents the trip generation calculations for each site.

The detailed calculations for each site can be found in Appendix A. Based on published ITE trip rates, the calculated trip generation trips are as follows:

- Panoche site calculated trip generation:
  - 20,927 daily
  - 1,274 AM peak hour
  - 1,314 PM peak hour
- Stockdale site calculated trip generation:
  - 8,590 daily
  - 617 AM peak hour
  - 595 PM peak hour

- Westley site calculated trip generation
  - 11,119 daily
  - 769 AM peak hour
  - 733 PM peak hour

Driveway Traffic Counts

Driveway counts were taken during a 24-hour period by Metro Traffic Data Inc. and National Data & Surveying Services (NDS) on the following dates:

- Panoche site: Thursday, August 1, 2019
- Stockdale site: Tuesday, October 15, 2019
- Westley site: Tuesday, October 8, 2019

Observations were conducted by use or for the site as noted in the site descriptions above. The traffic count worksheets can be found in Appendix B. Aerial maps with traffic count locations can be found in Appendix D. The results of the driveway counts at each site are summarized below and are presented in Appendix C:

- Panoche site driveway counts:
  - 5,635 daily
  - 448 AM peak hour
  - 537 PM peak hour

- Stockdale site driveway counts:
  - 4,113 daily
  - 182 AM peak hour
  - 230 PM peak hour

- Westley site driveway counts:
  - 4,432 daily
  - 260 AM peak hour
  - 340 PM peak hour

Comparison – Calculated Trips vs Driveway Counts

Table 1 includes a comparison of driveway volumes against trip generation calculations based on ITE trip rates. The ITE estimate exceeded daily trip counts for a single site between approximately 7,000 and 15,000 trips. At peak hours, the observed difference ranged from 400 to 800 trips fewer than ITE estimates. The table also compares a ratio of ITE to observed counts. At each site the ratios during the peak hours range between 2.06 and 3.87. For daily trips, the ratios at each site range from 2.09 to 3.71– meaning that ITE estimates nearly three times more trips based on the land use than what was observed.

Based on the comparison between calculated trips and observed driveway traffic, a modified trip rate should be used to estimate traffic for the Jackson Ranch Specific Plan. It is recommended that the average of the ratios between the three sites be used for the Jackson Ranch Specific Plan – A reduction of 2.77 for daily trips, 3.06 for the AM peak, and 2.40 for the PM peak.

Table 1. Project Trip Generation – Comparison of ITE Trip Rates and Driveway Counts

Commercial Site	Data Source	Trips						
			AM Peak Hour			PM Peak Hour		
		Daily	In	Out	Total	In	Out	Total
Panoche	Estimates - ITE Trip Rates	20,927	650	624	1,274	673	641	1,314
	Driveway Counts	5,635	230	218	448	270	267	537
	Difference	*-15,292*	*-420*	*-406*	*-826*	*-403*	*-374*	*-777*
	ITE/Counts Ratio	*3.71*	*2.83*	*2.86*	*2.84*	*2.49*	*2.4*	*2.45*
Stockdale	Estimates - ITE Trip Rates	8,590	329	288	617	303	292	595
	Driveway Counts	4,113	85	97	182	118	112	230
	Difference	*-4,477*	*-244*	*-191*	*-435*	*-185*	*-180*	*-365*
	ITE/Counts Ratio	*2.09*	*3.87*	*2.97*	*3.39*	*2.57*	*2.61*	*2.59*
Westley	Estimates - ITE Trip Rates	11,119	395	374	769	378	355	733
	Driveway Counts	4432	130	130	260	168	172	340
	Difference	*-6,687*	*-265*	*-244*	*-509*	*-210*	*-183*	*-393*
	ITE/Counts Ratio	*2.51*	*3.04*	*2.88*	*2.96*	*2.25*	*2.06*	*2.16*
Average		***2.77***			***3.06***			***2.40***

Appendix A: Trip Generation Calculations

Table A1 Trip Generation Calculations for Panoche Site

North of Panoche Road				Trip Generation[1]						
					AM Peak Hour			PM Peak Hour		
Building	**Area (TSF)**	**Notes**	**Land Use**	Daily	In	Out	Total	In	Out	Total
Best Western Apricot Inn	12.79	74 total guest rooms	Hotel (310)	804	22	15	37	27	26	54
Apricot Tree Resturant	8.36	closed for three years	Fast-Food Resturant w/out Drive through Window (933)	0	0	0	0	0	0	0
McDonald's	3.09	McDonald's and Extra Mile Mart share the same building (60/40 split with McDonald's using 60%)	Fast-Food Resturant w/Drive through Window (934)	1,456	63	61	124	53	48	101
Extra Mile Mart	2.06		Gasoline Station w/Convenience Market (945)	2,969	80	77	157	93	89	182
Chevron Pump Station		12 gas pumps								
76 Pump Station		12 gas pumps	Gasoline Station w/Convenience Market (945)							
76 Food Mart	2.73			3,937	106	102	208	123	118	241
Westside Market	4.63		Convenience Market (851)	3,526	145	145	290	116	111	227
Internal Capture (5% of total)				-635	-21	-20	-41	-21	-20	-41
TOTAL - North of Panoche				**12,057**	**395**	**380**	**775**	**391**	**372**	**763**

South of Panoche Road				Trip Generation[1]						
					AM Peak Hour			PM Peak Hour		
Building	**Area (TSF)**	**Notes**	**Land Use**	Daily	In	Out	Total	In	Out	Total
Frosters Freeze	2.13		Fast-Food Resturant w/Drive through Window (934)	1,003	44	42	86	36	33	69
Shell Pump Station		8 gas pumps	Gasoline Station w/Convenience Market (945)	-	-	-	-	-	-	-
Shell Food Mart	2.02			2,911	78	75	153	91	87	178
Mobil Pump Station		16 gas pumps	Gasoline Station w/Convenience Market (945)	-	-	-	-	-	-	-
Mobil Mart	3.77			5,423	146	140	286	170	163	333
Internal Capture (5% of total)				-467	-13	-13	-26	-15	-14	-29
TOTAL - South of Panoche				**8,870**	**255**	**244**	**499**	**282**	**269**	**551**

GRAND TOTAL (North+South)	**20,927**	**650**	**624**	**1274**	**673**	**641**	**1314**

Table A2 Trip Generation Calculations for Stockdale Site

				Trip Generation[1]						
					AM Peak Hour			PM Peak Hour		
Building	**Land Use**	**Area (TSF)**	**Quantity**	Daily	In	Out	Total	In	Out	Total
Chevron Pump Station	Gasoline Station w/Convenience Market (945)		8 gas pumps	--	--	--	--	--	--	--
Chevron Convenience Market		3.38		2,577	106	106	212	85	81	166
Subway	Fast-Food Resturant w/Drive through Window (934)	1.45		683	30	29	59	25	23	48
Jack in the Box	Fast-Food Resturant w/Drive through Window (934)	2.53		1,191	52	50	102	43	40	83
Best Western Heritage Inn	Hotel (310)	--	47 total guest rooms	511	14	10	24	17	17	34
Vagabond Inn	Hotel (310)	--	53 total guest rooms	576	15	11	26	20	19	39
IHOP	Fast-Food Resturant w/o Drive through Window (933)	5.96		2,064	90	60	150	84	84	168
Shell Pump Station	Gasoline Station w/Convenience Market (945)		24 gas pumps 8 diesel pumps	--	--	--	--	--	--	--
Shell E-Z Trip Market		2.55		1,440	39	37	76	45	43	88
Internal Capture (5% of total)				-452	-17	-15	-32	-16	-15	-31
TOTAL				**8,590**	**329**	**288**	**617**	**303**	**292**	**595**

[1]Trip generation rates for peak hour of adjacent streets, per the ITE Trip Generation Manual 10th Edition.

2 TSF = Thousand Square Feet

Table A3 Trip Generation Calculations for Westley Site

Building	Land Use (ITE Land Use Code)	Area (TSF)	Quantity	Trip Generation[1]						
					AM Peak Hour			PM Peak Hour		
				Daily	In	Out	Total	In	Out	Total
McDonalds	Fast-Food Resturant w/Drive through Window (934)	4.75		2,235	97	93	190	81	74	155
Chevron	Gasoline Station w/Convenience Market (945)	3.23	12 gas pumps	4,648	125	120	245	145	140	285
Holiday Inn Express	Hotel (310)	--	65 total guest rooms	706	19	13	32	24	23	47
76 (Gas Station and Convenience Mart)	Gasoline Station w/Convenience Market (945)	2.68	16 gas pumps	3,863	104	100	204	121	116	237
Carl's Jr	Fast-Food Resturant w/Drive through Window (934)	3.75		1,765	77	74	151	64	59	123
Internal Capture (5% of total)				-661	-21	-20	-41	-22	-21	-43
TOTAL				**12,556**	**401**	**380**	**781**	**413**	**391**	**804**

1 Trip Generation based on ITE trip rates

2 TSF = Thousand Square Feet

Appendix B: Traffic Counts

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotraffic data.com

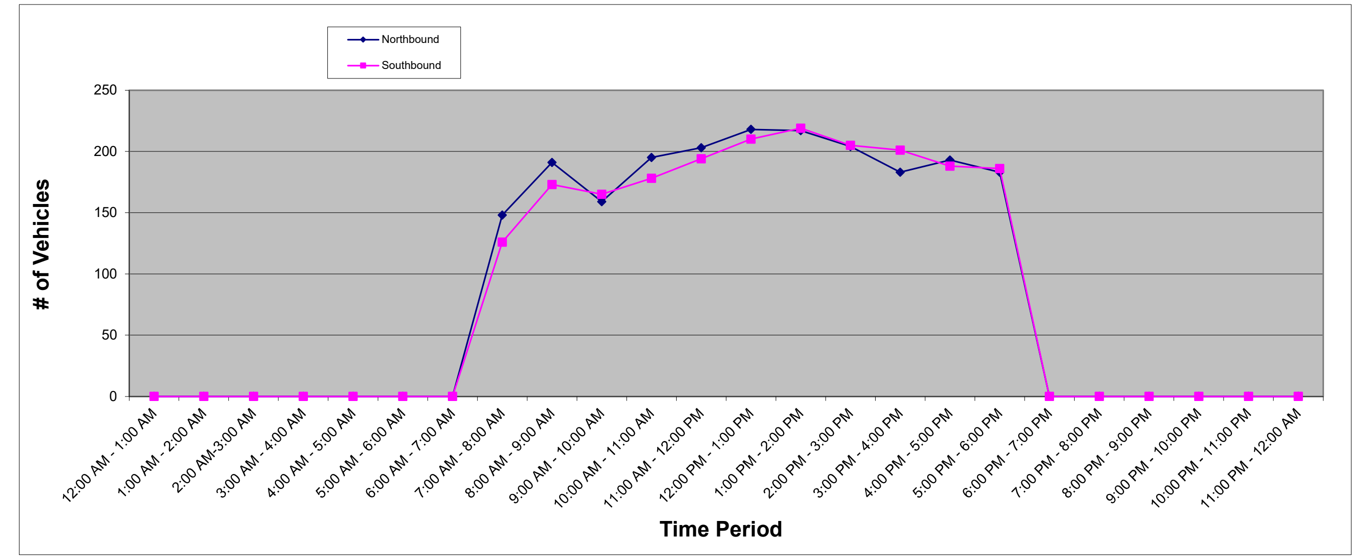
Prepared For:

Placeworks
3 MacArthur Pl, Suite 1100
Santa Ana, CA 92707

Description Driveway north of Panoche Rd
Survey Date Thursday, August 1, 2019
Latitude 36.638374°
Longitude -120.626690°
Number of Lanes 2
Total Volume 4139
HV Percentage 7.9%
AM Peak Period 11:30am-12:30am
AM Peak Volume 431
AM PHF 0.90
PM Peak Period 1:15pm-2:15pm
PM Peak Volume 442
PM PHF 0.91

Class 1 - Motorcycles, 2 axles
Class 2 - Passenger cars, 2 axles
Class 3 - Pickup trucks, vans, 2 axles
Class 4 - Busses
Class 5 - Single unit, 2 axle, 6 tires
Class 6 - Single unit truck, 3 axles
Class 7 - Single unit, 4 axles
Class 8 - Double unit, < 5 axles
Class 9 - Double unit, 5 axles
Class 10 - Double unit, > 5 axles
Class 11 - Multi unit, 5 axles
Class 12 - Multi unit, 6 axles
Class 13 - Multi unit, > 6 axles
Class 14 - Unclassifiable

1st First 15 minute interval
2nd Second 15 minute interval
3rd Third 15 minute interval
4th Fourth 15 minute interval
T Hourly Total



Northbound

Hour	Class 1					Class 2					Class 3					Class 4					Class 5					Class 6					Class 7				
	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T
12:00 AM - 1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM - 2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM-3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM - 4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM - 5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM - 6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM - 7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM - 8:00 AM	0	1	1	0	2	27	27	23	33	110	6	7	6	4	23	0	0	0	0	0	0	1	1	3	5	0	1	1	0	2	0	0	0	0	0
8:00 AM - 9:00 AM	0	0	0	0	0	45	41	27	29	142	7	4	10	12	33	0	0	0	0	0	2	1	1	2	6	1	0	0	1	2	0	0	0	0	0
9:00 AM - 10:00 AM	0	0	0	0	0	21	43	20	29	113	4	2	9	6	21	0	0	1	0	1	0	3	4	6	13	0	0	0	0	0	0	0	0	0	0
10:00 AM - 11:00 AM	0	0	1	0	1	39	40	27	41	147	6	9	7	5	27	0	1	0	0	1	2	1	3	3	9	1	0	0	0	1	0	0	0	0	0
11:00 AM - 12:00 PM	0	0	0	0	0	42	34	39	40	155	8	7	9	6	30	0	0	0	0	0	0	4	0	6	10	0	0	0	0	0	0	0	0	0	0
12:00 PM - 1:00 PM	0	1	0	0	1	53	41	39	38	171	9	4	5	4	22	0	0	0	0	0	2	4	5	4	15	0	1	0	2	3	0	0	0	0	0
1:00 PM - 2:00 PM	0	1	0	0	1	36	54	39	40	169	4	8	5	2	19	1	0	0	0	1	5	6	0	4	15	0	0	0	0	0	0	0	0	0	0
2:00 PM - 3:00 PM	0	0	0	1	1	52	33	45	36	166	5	7	5	5	22	0	0	0	0	0	2	1	2	1	6	0	0	0	0	0	0	0	0	0	0
3:00 PM - 4:00 PM	0	1	0	0	1	42	28	31	36	137	7	4	7	5	23	0	0	0	1	1	3	0	1	5	9	0	0	0	0	0	0	0	0	0	0
4:00 PM - 5:00 PM	1	0	0	0	1	43	39	43	35	160	5	3	7	3	18	0	0	0	0	0	2	2	0	2	6	0	0	0	0	0	0	0	0	0	0
5:00 PM - 6:00 PM	0	0	0	0	0	32	39	34	33	138	5	8	8	6	27	0	0	0	0	0	2	0	4	2	8	0	0	0	0	0	0	0	0	0	0
6:00 PM - 7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM - 8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM - 9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM - 10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM - 11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM - 12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	8					1608					265					4					102					8					0				
Percentage	0.4%					76.8%					12.7%					0.2%					4.9%					0.4%					0.0%				

Hour	Class 8					Class 9					Class 10					Class 11					Class 12					Class 13					Class 14					Total
	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	
12:00 AM - 1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM - 2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM-3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM - 4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM - 5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM - 6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM - 7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM - 8:00 AM	0	0	0	0	0	1	1	1	2	5	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	148
8:00 AM - 9:00 AM	1	0	0	0	1	2	3	0	1	6	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	191
9:00 AM - 10:00 AM	0	0	0	1	1	2	0	3	3	8	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	159
10:00 AM - 11:00 AM	0	0	0	0	0	1	0	4	3	8	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	195
11:00 AM - 12:00 PM	0	0	0	0	0	1	2	1	4	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	203
12:00 PM - 1:00 PM	0	0	0	0	0	0	0	5	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	218
1:00 PM - 2:00 PM	1	0	0	0	1	4	3	0	3	10	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	217
2:00 PM - 3:00 PM	0	0	0	0	0	2	1	5	1	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	204
3:00 PM - 4:00 PM	0	0	0	0	0	3	4	2	2	11	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	183
4:00 PM - 5:00 PM	0	0	0	0	0	1	1	1	3	6	0	0	0	0	0	1	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	193
5:00 PM - 6:00 PM	0	0	1	0	1	2	3	2	1	8	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	183
6:00 PM - 7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM - 8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM - 9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM - 10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM - 11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM - 12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	4					85					1					7					1					1					0					2094
Percentage	0.2%					4.1%					0.0%					0.3%					0.0%					0.0%					0.0%					100.0%

11:45am-12:45am AM PK 225 AM PHF 0.88 12:30pm-1:30pm PM PK 227 PM PHF 0.78 HV Percent 10.2%

Southbound

Hour	Class 1					Class 2					Class 3					Class 4					Class 5					Class 6					Class 7				
	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T
12:00 AM - 1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM - 2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM-3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM - 4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM - 5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM - 6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM - 7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM - 8:00 AM	0	1	2	0	3	24	19	30	31	104	3	1	3	4	11	0	0	0	0	0	0	0	1	2	3	0	0	0	1	1	0	0	0	0	0
8:00 AM - 9:00 AM	0	0	0	0	0	31	40	41	29	141	9	6	5	5	25	0	0	0	0	0	0	1	2	0	3	0	0	0	0	0	0	0	0	0	0
9:00 AM - 10:00 AM	1	0	0	0	1	32	32	35	22	121	11	3	12	3	29	0	0	0	0	0	0	1	1	4	6	1	0	1	0	2	0	0	0	0	0
10:00 AM - 11:00 AM	0	0	0	0	0	32	41	35	33	141	6	7	8	5	26	0	1	0	1	2	3	2	1	1	7	0	0	0	0	0	0	0	0	0	0
11:00 AM - 12:00 PM	1	0	0	0	1	36	34	42	38	150	8	7	11	7	33	0	0	0	0	0	0	1	3	1	5	0	0	0	0	0	0	0	0	0	0
12:00 PM - 1:00 PM	0	0	0	0	0	40	41	41	39	161	16	8	8	7	39	0	0	0	0	0	0	2	1	3	6	0	0	0	1	1	0	0	0	0	0
1:00 PM - 2:00 PM	1	0	1	0	2	47	32	46	43	168	16	8	6	4	34	0	0	0	0	0	1	2	6	1	10	0	2	0	0	2	0	0	0	0	0
2:00 PM - 3:00 PM	0	0	0	0	0	47	33	44	41	165	10	9	7	6	32	0	0	0	0	0	1	2	0	1	4	0	0	0	0	0	0	0	0	0	0
3:00 PM - 4:00 PM	1	1	0	0	2	43	34	51	36	164	4	4	6	7	21	0	0	0	0	0	5	0	2	2	9	0	0	0	0	0	0	0	0	0	0
4:00 PM - 5:00 PM	1	0	0	0	1	31	40	44	41	156	6	6	2	6	20	0	0	0	0	0	1	3	2	1	7	0	0	0	0	0	0	0	0	0	0
5:00 PM - 6:00 PM	0	0	0	0	0	28	45	35	42	150	4	6	9	11	30	0	0	0	0	0	1	1	1	1	4	0	0	0	0	0	0	0	0	0	0
6:00 PM - 7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM - 8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM - 9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM - 10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM - 11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM - 12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	10					1621					300					2					64					6					0				
Percentage	0.5%					79.3%					14.7%					0.1%					3.1%					0.3%					0.0%				

Hour	Class 8					Class 9					Class 10					Class 11					Class 12					Class 13					Class 14					Total
	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	
12:00 AM - 1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM - 2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM-3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM - 4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM - 5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM - 6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM - 7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM - 8:00 AM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	126
8:00 AM - 9:00 AM	0	0	0	0	0	0	0	2	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	173
9:00 AM - 10:00 AM	0	0	0	1	1	1	3	0	0	4	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	165
10:00 AM - 11:00 AM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	178
11:00 AM - 12:00 PM	0	0	0	0	0	2	1	1	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	194
12:00 PM - 1:00 PM	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	210
1:00 PM - 2:00 PM	0	0	0	0	0	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	219
2:00 PM - 3:00 PM	0	0	0	0	0	3	1	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	205
3:00 PM - 4:00 PM	0	0	0	0	0	0	2	2	0	4	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	201
4:00 PM - 5:00 PM	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	188
5:00 PM - 6:00 PM	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	186
6:00 PM - 7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM - 8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM - 9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM - 10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM - 11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM - 12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1					34					0					5					2					0					0					2045
Percentage	0.0%					1.7%					0.0%					0.2%					0.1%					0.0%					0.0%					100.0%

11:30am-12:30am AM PK 211 AM PHF 0.93 12:45pm-1:45pm PM PK 223 PM PHF 0.86 HV Percent 5.6%

Metro Traffic Data Inc.

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotraffic data.com

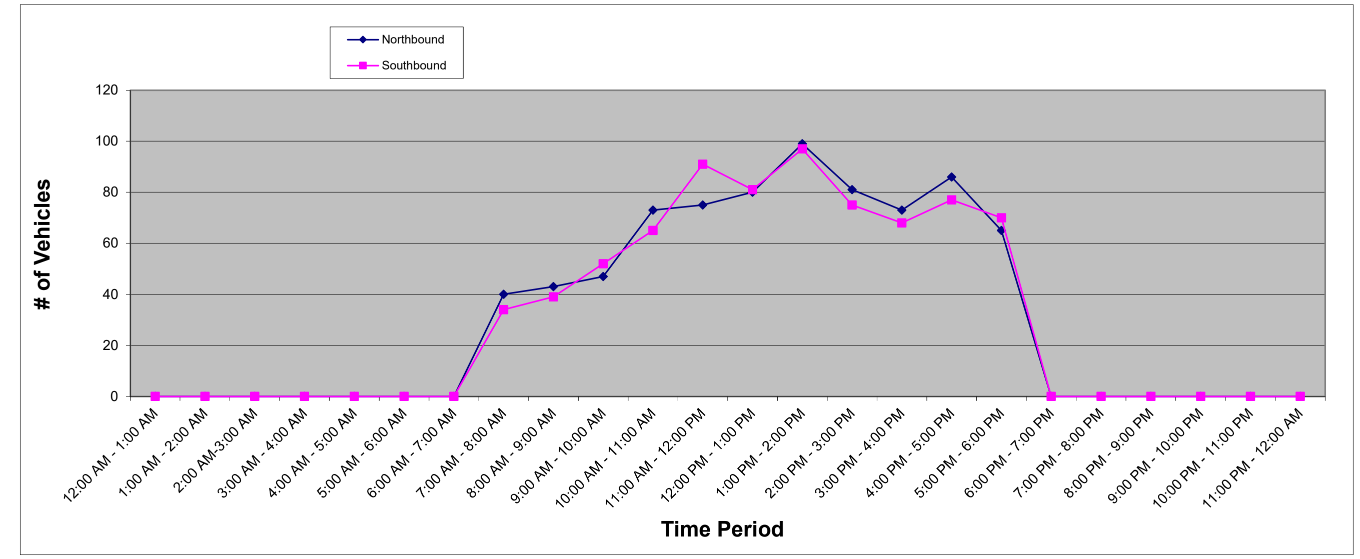
Prepared For:

Placeworks
3 MacArthur Pl, Suite 1100
Santa Ana, CA 92707

Description	Driveway south of Panoche Rd
Survey Date	Thursday, August 1, 2019
Latitude	36.637798°
Longitude	-120.626354°
Number of Lanes	2
Total Volume	1511
HV Percentage	7.7%
AM Peak Period	11:15am-12:15am
AM Peak Volume	180
AM PHF	0.90
PM Peak Period	1:00pm-2:00pm
PM Peak Volume	196
PM PHF	0.91

Class 1 - Motorcycles, 2 axles
Class 2 - Passenger cars, 2 axles
Class 3 - Pickup trucks, vans, 2 axles
Class 4 - Busses
Class 5 - Single unit, 2 axle, 6 tires
Class 6 - Single unit truck, 3 axles
Class 7 - Single unit, 4 axles
Class 8 - Double unit, < 5 axles
Class 9 - Double unit, 5 axles
Class 10 - Double unit, > 5 axles
Class 11 - Multi unit, 5 axles
Class 12 - Multi unit, 6 axles
Class 13 - Multi unit, > 6 axles
Class 14 - Unclassifiable

1st First 15 minute interval
2nd Second 15 minute interval
3rd Third 15 minute interval
4th Fourth 15 minute interval
T Hourly Total



Northbound

Hour	Class 1					Class 2					Class 3					Class 4					Class 5				
	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T
12:00 AM - 1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM - 2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM-3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM - 4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM - 5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM - 6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM - 7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM - 8:00 AM	0	0	2	0	2	5	6	2	10	23	1	0	1	6	8	0	0	0	0	0	0	0	1	1	2
8:00 AM - 9:00 AM	0	0	0	0	0	6	10	12	10	38	0	1	1	1	3	0	0	1	0	1	0	0	1	0	1
9:00 AM - 10:00 AM	1	0	0	1	2	7	7	10	7	31	2	2	5	3	12	0	0	0	0	0	0	0	0	1	1
10:00 AM - 11:00 AM	0	0	0	0	0	11	10	14	11	46	6	9	4	1	20	0	0	0	0	0	0	0	2	2	4
11:00 AM - 12:00 PM	0	0	0	0	0	7	20	18	17	62	2	0	6	2	10	0	0	0	0	0	0	0	0	1	1
12:00 PM - 1:00 PM	0	1	1	0	2	13	14	11	21	59	4	1	4	5	14	0	0	0	0	0	0	2	0	2	4
1:00 PM - 2:00 PM	0	0	0	0	0	15	13	19	22	69	9	4	7	4	24	0	0	1	0	1	0	0	1	2	3
2:00 PM - 3:00 PM	0	0	0	0	0	13	15	10	21	59	5	1	2	8	16	0	0	0	0	0	1	1	1	2	5
3:00 PM - 4:00 PM	1	0	0	0	1	14	12	12	15	53	2	3	3	0	8	0	0	0	0	0	4	3	2	1	10
4:00 PM - 5:00 PM	1	0	0	0	1	21	13	19	14	67	0	3	3	3	9	0	0	0	0	0	1	3	2	2	8
5:00 PM - 6:00 PM	0	0	0	1	1	16	12	12	14	54	1	2	4	1	8	0	0	0	0	0	1	0	0	1	2
6:00 PM - 7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM - 8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM - 9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM - 10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM - 11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM - 12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	9					561					132					2					41				
Percentage	1.2%					73.6%					17.3%					0.3%					5.4%				

Hour	Class 6					Class 7					Class 8					Class 9					Class 10				
	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T
12:00 AM - 1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM - 2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM-3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM - 4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM - 5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM - 6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM - 7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	3	0	0	0	3	0	0	0	0	0
8:00 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM - 10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
10:00 AM - 11:00 AM	0	0	0	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	1	1	0	0	0	0	0
11:00 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
12:00 PM - 1:00 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM - 2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
3:00 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
4:00 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
5:00 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM - 7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM - 8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM - 9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM - 10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM - 11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM - 12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2					0					4					7					0				
Percentage	0.3%					0.0%					0.5%					0.9%					0.0%				

Hour	Class 11					Class 12					Class 13					Class 14					Total
	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	
12:00 AM - 1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM - 2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM-3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM - 4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM - 5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM - 6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM - 7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM - 8:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40
8:00 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43
9:00 AM - 10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47
10:00 AM - 11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	73
11:00 AM - 12:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75
12:00 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	80
1:00 PM - 2:00 PM	0	0	0	1	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	99
2:00 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	81
3:00 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	73
4:00 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	86
5:00 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	65
6:00 PM - 7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM - 8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM - 9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM - 10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM - 11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM - 12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3					1					0					0					762
Percentage	0.4%					0.1%					0.0%					0.0%					100.0%

11:15am-12:15am AM PK 83 AM PHF 0.86 12:45pm-1:45pm PM PK 99 PM PHF 0.85 HV Percent 7.9%

Southbound

Hour	Class 1					Class 2					Class 3					Class 4					Class 5				
	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T
12:00 AM - 1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM - 2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM-3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM - 4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM - 5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM - 6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM - 7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM - 8:00 AM	0	1	1	0	2	2	4	8	9	23	1	0	3	1	5	0	0	0	0	0	1	0	1	0	2
8:00 AM - 9:00 AM	0	0	0	0	0	3	12	10	9	34	0	2	0	1	3	0	0	1	0	1	0	0	1	0	1
9:00 AM - 10:00 AM	1	0	1	0	2	8	8	11	7	34	2	2	4	5	13	0	0	0	0	0	0	0	1	1	2
10:00 AM - 11:00 AM	0	0	0	0	0	10	12	11	9	42	8	6	2	0	16	0	0	0	0	0	1	0	1	0	2
11:00 AM - 12:00 PM	0	0	0	0	0	18	20	21	19	78	1	1	5	3	10	0	0	0	0	0	0	0	0	1	1
12:00 PM - 1:00 PM	2	0	0	0	2	19	8	20	9	56	4	2	7	5	18	0	0	0	0	0	0	1	1	1	3
1:00 PM - 2:00 PM	0	0	0	0	0	21	14	17	20	72	8	3	5	4	20	0	1	0	0	1	0	1	0	1	2
2:00 PM - 3:00 PM	0	1	0	0	1	12	8	19	13	52	3	1	6	2	12	0	0	0	0	0	0	3	2	5	10
3:00 PM - 4:00 PM	0	1	0	0	1	14	13	12	14	53	4	2	0	1	7	0	0	0	0	0	3	1	1	0	5
4:00 PM - 5:00 PM	0	0	0	0	0	16	16	18	13	63	1	3	1	2	7	0	0	0	0	0	1	2	2	1	6
5:00 PM - 6:00 PM	0	0	1	0	1	15	10	15	16	56	2	4	1	3	10	0	0	0	0	0	1	0	2	0	3
6:00 PM - 7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM - 8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM - 9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM - 10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM - 11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM - 12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	9					563					121					2					37				
Percentage	1.2%					75.2%					16.2%					0.3%					4.9%				

Hour	Class 6					Class 7					Class 8					Class 9					Class 10				
	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T
12:00 AM - 1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM - 2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM-3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM - 4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM - 5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM - 6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM - 7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0
8:00 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM - 10:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
10:00 AM - 11:00 AM	1	0	0	1	2	1	0	0	0	1	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0
11:00 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
12:00 PM - 1:00 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
1:00 PM - 2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0
4:00 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0
5:00 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM - 7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM - 8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM - 9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM - 10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM - 11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM - 12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3					1					3					6					0				
Percentage	0.4%					0.1%					0.4%					0.8%					0.0%				

Hour	Class 11					Class 12					Class 13					Class 14					Total
	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	1st	2nd	3rd	4th	T	
12:00 AM - 1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM - 2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM-3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM - 4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM - 5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM - 6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM - 7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM - 8:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34
8:00 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39
9:00 AM - 10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52
10:00 AM - 11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	65
11:00 AM - 12:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	91
12:00 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	81
1:00 PM - 2:00 PM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	97
2:00 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75
3:00 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	68
4:00 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	77
5:00 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	70
6:00 PM - 7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM - 8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM - 9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM - 10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM - 11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM - 12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3					1					0					0					749
Percentage	0.4%					0.1%					0.0%					0.0%					100.0%

11:15am-12:15am AM PK 97 AM PHF 0.93 1:00pm-2:00pm PM PK 97 PM PHF 0.84 HV Percent 7.5%

Prepared by National Data & Surveying Services

VOLUME

Chevron Gas Station W Dwy @ Stockdale Hwy

Day: Tuesday
Date: 10/15/2019

City: Bakersfield
Project #: CA19_2084_001

DAILY TOTALS	IN	OUT	Total
	349	255	604

AM Period	IN		OUT		TOTAL		PM Period	IN		OUT		TOTAL	
0:00	3		4		7		12:00	6		3		9	
0:15	3		1		4		12:15	5		3		8	
0:30	1		2		3		12:30	7		2		9	
0:45	5	12	0	7	5	19	12:45	7	25	4	12	11	37
1:00	1		2		3		13:00	3		4		7	
1:15	1		0		1		13:15	7		2		9	
1:30	0		0		0		13:30	8		4		12	
1:45	3	5	0	2	3	7	13:45	7	25	5	15	12	40
2:00	1		0		1		14:00	10		9		19	
2:15	0		1		1		14:15	6		1		7	
2:30	0		0		0		14:30	4		4		8	
2:45	0	1	1	2	1	3	14:45	6	26	7	21	13	47
3:00	2		0		2		15:00	3		7		10	
3:15	1		0		1		15:15	5		2		7	
3:30	3		0		3		15:30	6		5		11	
3:45	5	11	3	3	8	14	15:45	8	22	2	16	10	38
4:00	2		1		3		16:00	7		1		8	
4:15	2		2		4		16:15	5		5		10	
4:30	3		2		5		16:30	2		3		5	
4:45	3	10	4	9	7	19	16:45	0	14	4	13	4	27
5:00	2		4		6		17:00	4		1		5	
5:15	1		6		7		17:15	10		2		12	
5:30	2		6		8		17:30	6		4		10	
5:45	2	7	8	24	10	31	17:45	6	26	3	10	9	36
6:00	4		1		5		18:00	8		6		14	
6:15	6		9		15		18:15	2		2		4	
6:30	5		5		10		18:30	5		1		6	
6:45	4	19	7	22	11	41	18:45	5	20	3	12	8	32
7:00	3		2		5		19:00	3		1		4	
7:15	1		4		5		19:15	4		2		6	
7:30	2		1		3		19:30	2		1		3	
7:45	3	9	2	9	5	18	19:45	6	15	1	5	7	20
8:00	7		2		9		20:00	1		2		3	
8:15	3		3		6		20:15	2		0		2	
8:30	4		3		7		20:30	1		2		3	
8:45	4	18	1	9	5	27	20:45	3	7	1	5	4	12
9:00	3		4		7		21:00	3		2		5	
9:15	4		0		4		21:15	1		3		4	
9:30	3		4		7		21:30	0		1		1	
9:45	3	13	3	11	6	24	21:45	6	10	3	9	9	19
10:00	4		3		7		22:00	4		4		8	
10:15	4		5		9		22:15	1		0		1	
10:30	6		4		10		22:30	0		1		1	
10:45	6	20	5	17	11	37	22:45	3	8	0	5	3	13
11:00	7		2		9		23:00	1		0		1	
11:15	4		3		7		23:15	2		0		2	
11:30	3		5		8		23:30	2		2		4	
11:45	6	20	3	13	9	33	23:45	1	6	2	4	3	10
TOTALS		145		128		**273**	**TOTALS**		204		127		**331**
SPLIT %		53.1%		46.9%		**45.2%**	**SPLIT %**		61.6%		38.4%		**54.8%**

DAILY TOTALS	IN	OUT	Total
	349	255	604

AM Peak Hour	11:45	5:00				**6:00**	**PM Peak Hour**	13:15	14:00				**13:15**
AM Pk Volume	24	24				**41**	**PM Pk Volume**	32	21				**52**
Pk Hr Factor	0.857	0.750				**0.683**	**Pk Hr Factor**	0.800	0.583				**0.684**
7 - 9 Volume	27	18	0	0		**45**	**4 - 6 Volume**	40	23	0	0		**63**
7 - 9 Peak Hour	8:00	7:45				**7:45**	**4 - 6 Peak Hour**	17:00	16:00				**17:00**
7 - 9 Pk Volume	18	10	0	0		**27**	**4 - 6 Pk Volume**	26	13	0	0		**36**
Pk Hr Factor	0.643	0.833	0.000	0.000		**0.750**	**Pk Hr Factor**	0.650	0.650	0.000	0.000		**0.750**

Prepared by National Data & Surveying Services

VOLUME

Chevron Gas Station E Dwy @ Stockdale Hwy

Day: Tuesday
Date: 10/15/2019

City: Bakersfield
Project #: CA19_2084_002

DAILY TOTALS	IN	OUT	Total
	79	121	200

AM Period	IN		OUT		TOTAL		PM Period	IN		OUT		TOTAL	
0:00	1		0		1		12:00	0		3		3	
0:15	0		1		1		12:15	0		3		3	
0:30	1		2		3		12:30	1		1		2	
0:45	2	4	0	3	2	7	12:45	0	1	0	7	0	8
1:00	0		1		1		13:00	0		2		2	
1:15	0		0		0		13:15	0		1		1	
1:30	0		1		1		13:30	1		1		2	
1:45	0		0	2	0	2	13:45	1	2	0	4	1	6
2:00	0		0		0		14:00	1		3		4	
2:15	0		0		0		14:15	1		0		1	
2:30	0		0		0		14:30	2		1		3	
2:45	1	1	0		1	1	14:45	3	7	4	8	7	15
3:00	0		1		1		15:00	0		3		3	
3:15	0		0		0		15:15	1		1		2	
3:30	0		1		1		15:30	0		3		3	
3:45	0		3	5	3	5	15:45	0	1	4	11	4	12
4:00	0		1		1		16:00	2		1		3	
4:15	0		2		2		16:15	1		0		1	
4:30	1		1		2		16:30	3		2		5	
4:45	1	2	1	5	2	7	16:45	2	8	5	8	7	16
5:00	2		1		3		17:00	1		1		2	
5:15	4		1		5		17:15	1		2		3	
5:30	3		2		5		17:30	0		3		3	
5:45	3	12	1	5	4	17	17:45	3	5	2	8	5	13
6:00	2		1		3		18:00	2		0		2	
6:15	1		3		4		18:15	0		2		2	
6:30	0		2		2		18:30	0		0		0	
6:45	0	3	0	6	0	9	18:45	0	2	0	2	0	4
7:00	1		3		4		19:00	2		3		5	
7:15	0		2		2		19:15	1		0		1	
7:30	1		2		3		19:30	0		2		2	
7:45	0	2	0	7	0	9	19:45	0	3	0	5	0	8
8:00	0		1		1		20:00	0		0		0	
8:15	1		1		2		20:15	1		0		1	
8:30	1		3		4		20:30	1		1		2	
8:45	2	4	4	9	6	13	20:45	0	2	0	1	0	3
9:00	1		1		2		21:00	1		0		1	
9:15	1		2		3		21:15	2		3		5	
9:30	1		2		3		21:30	0		0		0	
9:45	0	3	2	7	2	10	21:45	7	10	0	3	7	13
10:00	0		2		2		22:00	0		5		5	
10:15	2		0		2		22:15	0		0		0	
10:30	1		3		4		22:30	0		0		0	
10:45	0	3	0	5	0	8	22:45	0		1	6	1	6
11:00	0		1		1		23:00	0		1		1	
11:15	1		1		2		23:15	0		0		0	
11:30	0		0		0		23:30	1		0		1	
11:45	2	3	0	2	2	5	23:45	0	1	1	2	1	3
TOTALS		37		56		**93**	**TOTALS**		42		65		**107**
SPLIT %		39.8%		60.2%		**46.5%**	**SPLIT %**		39.3%		60.7%		**53.5%**

DAILY TOTALS	IN	OUT	Total
	79	121	200

AM Peak Hour	5:00	8:30			**5:00**		**PM Peak Hour**	21:00	14:45			**16:30**
AM Pk Volume	12	10			**17**		**PM Pk Volume**	10	11			**17**
Pk Hr Factor	0.750	0.625			**0.850**		**Pk Hr Factor**	0.357	0.688			**0.607**
7 - 9 Volume	6	16	0	0	**22**		**4 - 6 Volume**	13	16	0	0	**29**
7 - 9 Peak Hour	8:00	8:00			**8:00**		**4 - 6 Peak Hour**	16:00	16:45			**16:30**
7 - 9 Pk Volume	4	9	0	0	**13**		**4 - 6 Pk Volume**	8	11	0	0	**17**
Pk Hr Factor	0.500	0.563	0.000	0.000	**0.542**		**Pk Hr Factor**	0.667	0.550	0.000	0.000	**0.607**

Prepared by National Data & Surveying Services

VOLUME

Trask St W @ Stockdale Hwy

Day: Tuesday
Date: 10/15/2019

City: Bakersfield
Project #: CA19_2084_003

DAILY TOTALS	IN	OUT	Total
	1,076	575	1,651

AM Period	IN		OUT		TOTAL		PM Period	IN		OUT		TOTAL	
0:00	10		2		12		12:00	15		13		28	
0:15	5		7		12		12:15	18		6		24	
0:30	12		3		15		12:30	21		9		30	
0:45	7	34	4	16	11	50	12:45	15	69	7	35	22	104
1:00	11		7		18		13:00	17		20		37	
1:15	9		7		16		13:15	11		9		20	
1:30	10		2		12		13:30	10		8		18	
1:45	5	35	2	18	7	53	13:45	23	61	8	45	31	106
2:00	8		3		11		14:00	21		11		32	
2:15	11		1		12		14:15	16		11		27	
2:30	3		0		3		14:30	19		8		27	
2:45	6	28	1	5	7	33	14:45	17	73	9	39	26	112
3:00	6		2		8		15:00	11		7		18	
3:15	6		1		7		15:15	13		10		23	
3:30	10		2		12		15:30	16		6		22	
3:45	8	30	3	8	11	38	15:45	17	57	10	33	27	90
4:00	8		4		12		16:00	10		4		14	
4:15	6		4		10		16:15	17		6		23	
4:30	9		3		12		16:30	22		13		35	
4:45	5	28	8	19	13	47	16:45	14	63	10	33	24	96
5:00	9		7		16		17:00	8		3		11	
5:15	6		6		12		17:15	21		5		26	
5:30	7		1		8		17:30	20		10		30	
5:45	11	33	5	19	16	52	17:45	7	56	5	23	12	79
6:00	11		9		20		18:00	12		7		19	
6:15	15		5		20		18:15	10		5		15	
6:30	12		10		22		18:30	10		3		13	
6:45	11	49	11	35	22	84	18:45	6	38	4	19	10	57
7:00	11		11		22		19:00	7		7		14	
7:15	14		5		19		19:15	9		3		12	
7:30	10		12		22		19:30	13		3		16	
7:45	13	48	9	37	22	85	19:45	11	40	0	13	11	53
8:00	6		9		15		20:00	6		3		9	
8:15	9		9		18		20:15	8		3		11	
8:30	10		6		16		20:30	14		6		20	
8:45	10	35	6	30	16	65	20:45	18	46	6	18	24	64
9:00	6		7		13		21:00	13		5		18	
9:15	11		6		17		21:15	7		2		9	
9:30	8		7		15		21:30	9		3		12	
9:45	13	38	5	25	18	63	21:45	7	36	1	11	8	47
10:00	13		7		20		22:00	8		2		10	
10:15	22		7		29		22:15	10		5		15	
10:30	16		9		25		22:30	7		4		11	
10:45	8	59	5	28	13	87	22:45	8	33	1	12	9	45
11:00	18		9		27		23:00	9		3		12	
11:15	7		11		18		23:15	9		3		12	
11:30	10		10		20		23:30	9		5		14	
11:45	18	53	11	41	29	94	23:45	7	34	2	13	9	47
TOTALS		470		281		**751**	**TOTALS**		606		294		**900**
SPLIT %		62.6%		37.4%		**45.5%**	**SPLIT %**		67.3%		32.7%		**54.5%**

DAILY TOTALS	IN	OUT	Total
	1,076	575	1,651

AM Peak Hour	11:45	11:15			**11:45**	**PM Peak Hour**	13:45	12:30			**13:45**
AM Pk Volume	72	45			**111**	**PM Pk Volume**	79	45			**117**
Pk Hr Factor	0.857	0.865			**0.925**	**Pk Hr Factor**	0.859	0.563			**0.914**
7 - 9 Volume	83	67	0	0	**150**	**4 - 6 Volume**	119	56	0	0	**175**
7 - 9 Peak Hour	7:00	7:30			**7:00**	**4 - 6 Peak Hour**	16:30	16:00			**16:00**
7 - 9 Pk Volume	48	39	0	0	**85**	**4 - 6 Pk Volume**	65	33	0	0	**96**
Pk Hr Factor	0.857	0.813	0.000	0.000	**0.966**	**Pk Hr Factor**	0.739	0.635	0.000	0.000	**0.686**

Prepared by National Data & Surveying Services

VOLUME

Ihop W Dwy @ Stockdale Hwy

Day: Tuesday
Date: 10/15/2019

City: Bakersfield
Project #: CA19_2084_004

DAILY TOTALS	IN	OUT	Total
	183	147	330

AM Period	IN		OUT		TOTAL		PM Period	IN		OUT		TOTAL	
0:00	1		1		2		12:00	1		1		2	
0:15	0		1		1		12:15	1		0		1	
0:30	1		1		2		12:30	3		2		5	
0:45	1	3	2	5	3	8	12:45	1	6	4	7	5	13
1:00	0		2		2		13:00	3		2		5	
1:15	2		0		2		13:15	2		1		3	
1:30	4		1		5		13:30	3		2		5	
1:45	1	7	1	4	2	11	13:45	1	9	3	8	4	17
2:00	1		1		2		14:00	5		3		8	
2:15	0		0		0		14:15	1		3		4	
2:30	1		1		2		14:30	2		2		4	
2:45	1	3	4	6	5	9	14:45	3	11	4	12	7	23
3:00	1		1		2		15:00	2		1		3	
3:15	1		0		1		15:15	2		2		4	
3:30	1		1		2		15:30	3		0		3	
3:45	0	3	1	3	1	6	15:45	3	10	2	5	5	15
4:00	0		1		1		16:00	2		0		2	
4:15	2		0		2		16:15	2		2		4	
4:30	2		0		2		16:30	2		2		4	
4:45	0	4	1	2	1	6	16:45	5	11	1	5	6	16
5:00	2		1		3		17:00	2		1		3	
5:15	1		0		1		17:15	2		3		5	
5:30	1		1		2		17:30	5		2		7	
5:45	2	6	2	4	4	10	17:45	2	11	1	7	3	18
6:00	1		0		1		18:00	1		1		2	
6:15	2		2		4		18:15	2		3		5	
6:30	0		3		3		18:30	6		3		9	
6:45	2	5	0	5	2	10	18:45	11	20	1	8	12	28
7:00	1		0		1		19:00	1		6		7	
7:15	0		2		2		19:15	1		1		2	
7:30	1		0		1		19:30	2		2		4	
7:45	0	2	1	3	1	5	19:45	2	6	0	9	2	15
8:00	3		2		5		20:00	2		0		2	
8:15	1		1		2		20:15	2		3		5	
8:30	0		0		0		20:30	0		3		3	
8:45	4	8	0	3	4	11	20:45	3	7	1	7	4	14
9:00	2		1		3		21:00	4		2		6	
9:15	4		2		6		21:15	2		3		5	
9:30	3		5		8		21:30	3		3		6	
9:45	2	11	5	13	7	24	21:45	2	11	1	9	3	20
10:00	2		1		3		22:00	5		0		5	
10:15	1		1		2		22:15	4		3		7	
10:30	0		2		2		22:30	2		3		5	
10:45	1	4	2	6	3	10	22:45	0	11	2	8	2	19
11:00	0		1		1		23:00	1		1		2	
11:15	3		3		6		23:15	1		0		1	
11:30	6		1		7		23:30	1		1		2	
11:45	1	10	1	6	2	16	23:45	1	4	0	2	1	6
TOTALS		66		60		126	TOTALS		117		87		204
SPLIT %		52.4%		47.6%		38.2%	SPLIT %		57.4%		42.6%		61.8%

DAILY TOTALS	IN	OUT	Total
	183	147	330

AM Peak Hour	8:45	9:00				9:00	PM Peak Hour	18:00	18:15				18:15
AM Pk Volume	13	13				24	PM Pk Volume	20	13				33
Pk Hr Factor	0.813	0.650				0.750	Pk Hr Factor	0.455	0.542				0.688
7 - 9 Volume	10	6	0	0		16	4 - 6 Volume	22	12	0	0		34
7 - 9 Peak Hour	8:00	7:15				8:00	4 - 6 Peak Hour	16:45	16:30				16:45
7 - 9 Pk Volume	8	5	0	0		11	4 - 6 Pk Volume	14	7	0	0		21
Pk Hr Factor	0.500	0.625	0.000	0.000		0.550	Pk Hr Factor	0.700	0.583	0.000	0.000		0.750

Prepared by National Data & Surveying Services

VOLUME

Ihop E Dwy @ Stockdale Hwy

Day: Tuesday
Date: 10/15/2019

City: Bakersfield
Project #: CA19_2084_005

DAILY TOTALS	IN	OUT	Total
	109	214	323

AM Period	IN		OUT		TOTAL		PM Period	IN		OUT		TOTAL	
0:00	0		0		0		12:00	1		3		4	
0:15	0		1		1		12:15	0		5		5	
0:30	0		1		1		12:30	2		3		5	
0:45	3	3	1	3	4	6	12:45	1	4	5	16	6	20
1:00	2		7		9		13:00	3		4		7	
1:15	0		0		0		13:15	0		2		2	
1:30	1		0		1		13:30	1		4		5	
1:45	0	3	2	9	2	12	13:45	2	6	1	11	3	17
2:00	0		0		0		14:00	2		4		6	
2:15	0		2		2		14:15	3		5		8	
2:30	0		1		1		14:30	3		7		10	
2:45	0		0	3	0	3	14:45	1	9	1	17	2	26
3:00	0		0		0		15:00	0		4		4	
3:15	0		1		1		15:15	0		5		5	
3:30	0		1		1		15:30	3		3		6	
3:45	0		0	2	0	2	15:45	2	5	3	15	5	20
4:00	2		0		2		16:00	1		3		4	
4:15	0		0		0		16:15	1		2		3	
4:30	0		2		2		16:30	3		3		6	
4:45	1	3	4	6	5	9	16:45	0	5	2	10	2	15
5:00	2		0		2		17:00	0		1		1	
5:15	0		0		0		17:15	6		4		10	
5:30	1		0		1		17:30	3		1		4	
5:45	5	8	1	1	6	9	17:45	1	10	5	11	6	21
6:00	0		3		3		18:00	2		1		3	
6:15	2		0		2		18:15	1		2		3	
6:30	4		2		6		18:30	0		4		4	
6:45	4	10	2	7	6	17	18:45	0	3	3	10	3	13
7:00	2		4		6		19:00	0		3		3	
7:15	0		2		2		19:15	0		0		0	
7:30	2		1		3		19:30	0		4		4	
7:45	1	5	6	13	7	18	19:45	1	1	1	8	2	9
8:00	1		7		8		20:00	0		0		0	
8:15	1		0		1		20:15	3		1		4	
8:30	2		3		5		20:30	3		4		7	
8:45	0	4	3	13	3	17	20:45	2	8	2	7	4	15
9:00	3		5		8		21:00	0		0		0	
9:15	0		4		4		21:15	0		2		2	
9:30	2		6		8		21:30	0		1		1	
9:45	1	6	2	17	3	23	21:45	1	1	3	6	4	7
10:00	1		3		4		22:00	0		0		0	
10:15	2		4		6		22:15	1		0		1	
10:30	4		5		9		22:30	0		2		2	
10:45	1	8	0	12	1	20	22:45	1	2	3	5	4	7
11:00	0		1		1		23:00	0		0		0	
11:15	3		2		5		23:15	1		2		3	
11:30	0		2		2		23:30	1		2		3	
11:45	0	3	3	8	3	11	23:45	0	2	0	4	0	6
TOTALS		53		94		**147**	**TOTALS**		56		120		**176**
SPLIT %		36.1%		63.9%		**45.5%**	**SPLIT %**		31.8%		68.2%		**54.5%**

DAILY TOTALS	IN	OUT	Total
	109	214	323

AM Peak Hour	6:15	8:45			**8:45**	**PM Peak Hour**	17:15	12:15			**13:45**
AM Pk Volume	12	18			**23**	**PM Pk Volume**	12	17			**27**
Pk Hr Factor	0.750	0.750			**0.719**	**Pk Hr Factor**	0.500	0.850			**0.675**
7 - 9 Volume	9	26	0	0	**35**	**4 - 6 Volume**	15	21	0	0	**36**
7 - 9 Peak Hour	7:00	7:15			**7:45**	**4 - 6 Peak Hour**	17:00	17:00			**17:00**
7 - 9 Pk Volume	5	16	0	0	**21**	**4 - 6 Pk Volume**	10	11	0	0	**21**
Pk Hr Factor	0.625	0.571	0.000	0.000	**0.656**	**Pk Hr Factor**	0.417	0.550	0.000	0.000	**0.525**

Prepared by National Data & Surveying Services

VOLUME

Trask St E @ Stockdale Hwy

Day: Tuesday
Date: 10/15/2019

City: Bakersfield
Project #: CA19_2084_006

DAILY TOTALS	IN	OUT	Total
	238	767	1,005

AM Period	IN		OUT		TOTAL		PM Period	IN		OUT		TOTAL	
0:00	0		11		11		12:00	1		9		10	
0:15	1		12		13		12:15	4		12		16	
0:30	4		3		7		12:30	3		8		11	
0:45	5	10	7	33	12	43	12:45	1	9	4	33	5	42
1:00	2		7		9		13:00	3		10		13	
1:15	0		7		7		13:15	2		7		9	
1:30	0		11		11		13:30	3		15		18	
1:45	1	3	10	35	11	38	13:45	7	15	9	41	16	56
2:00	2		5		7		14:00	1		15		16	
2:15	0		7		7		14:15	1		8		9	
2:30	1		6		7		14:30	4		9		13	
2:45	0	3	8	26	8	29	14:45	4	10	11	43	15	53
3:00	1		4		5		15:00	7		11		18	
3:15	0		5		5		15:15	3		14		17	
3:30	3		6		9		15:30	3		14		17	
3:45	0	4	10	25	10	29	15:45	3	16	13	52	16	68
4:00	1		3		4		16:00	6		8		14	
4:15	1		5		6		16:15	3		8		11	
4:30	2		3		5		16:30	5		10		15	
4:45	2	6	8	19	10	25	16:45	3	17	15	41	18	58
5:00	4		3		7		17:00	0		8		8	
5:15	1		7		8		17:15	3		9		12	
5:30	0		4		4		17:30	2		15		17	
5:45	4	9	6	20	10	29	17:45	2	7	12	44	14	51
6:00	3		6		9		18:00	2		6		8	
6:15	0		4		4		18:15	3		7		10	
6:30	3		6		9		18:30	3		7		10	
6:45	5	11	6	22	11	33	18:45	4	12	8	28	12	40
7:00	4		11		15		19:00	2		8		10	
7:15	2		6		8		19:15	1		9		10	
7:30	4		7		11		19:30	1		4		5	
7:45	9	19	4	28	13	47	19:45	0	4	10	31	10	35
8:00	6		7		13		20:00	2		5		7	
8:15	2		9		11		20:15	4		10		14	
8:30	3		6		9		20:30	5		11		16	
8:45	2	13	5	27	7	40	20:45	0	11	6	32	6	43
9:00	6		6		12		21:00	2		9		11	
9:15	5		5		10		21:15	4		7		11	
9:30	3		8		11		21:30	2		7		9	
9:45	3	17	11	30	14	47	21:45	2	10	6	29	8	39
10:00	1		3		4		22:00	3		9		12	
10:15	1		8		9		22:15	1		11		12	
10:30	2		17		19		22:30	1		8		9	
10:45	3	7	4	32	7	39	22:45	1	6	9	37	10	43
11:00	5		7		12		23:00	0		10		10	
11:15	0		9		9		23:15	0		7		7	
11:30	4		8		12		23:30	2		5		7	
11:45	7	16	7	31	14	47	23:45	1	3	6	28	7	31
TOTALS		118		328		**446**	**TOTALS**		120		439		**559**
SPLIT %		26.5%		73.5%		**44.4%**	**SPLIT %**		21.5%		78.5%		**55.6%**

DAILY TOTALS	IN	OUT	Total
	238	767	1,005

AM Peak Hour	7:15	9:45			**11:30**	**PM Peak Hour**	14:30	15:00			**15:00**
AM Pk Volume	21	39			**52**	**PM Pk Volume**	18	52			**68**
Pk Hr Factor	0.583	0.574			**0.813**	**Pk Hr Factor**	0.643	0.929			**0.944**
7 - 9 Volume	32	55	0	0	**87**	**4 - 6 Volume**	24	85	0	0	**109**
7 - 9 Peak Hour	7:15	7:00			**7:30**	**4 - 6 Peak Hour**	16:00	16:45			**16:00**
7 - 9 Pk Volume	21	28	0	0	**48**	**4 - 6 Pk Volume**	17	47	0	0	**58**
Pk Hr Factor	0.583	0.636	0.000	0.000	**0.923**	**Pk Hr Factor**	0.708	0.783	0.000	0.000	**0.806**

Prepared by National Data & Surveying Services

IN & OUT

Howard Rd & Ingram Creek Rd

Day: Tuesday
Date: 10/8/2019

City: Westley
Project #: CA_19_7370_001

DAILY TOTALS	IN	OUT		Total
	229	206		435

AM Period	IN		OUT		TOTAL		PM Period	IN		OUT		TOTAL	
0:00	0		2		2		12:00	4		3		7	
0:15	0		0		0		12:15	3		5		8	
0:30	1		0		1		12:30	1		0		1	
0:45	0	1	0	2	0	3	12:45	5	13	2	10	7	23
1:00	0		0		0		13:00	6		1		7	
1:15	0		0		0		13:15	4		3		7	
1:30	1		0		1		13:30	6		3		9	
1:45	0	1	0		0	1	13:45	0	16	5	12	5	28
2:00	1		1		2		14:00	1		2		3	
2:15	0		0		0		14:15	2		3		5	
2:30	0		0		0		14:30	3		3		6	
2:45	0	1	1	2	1	3	14:45	1	7	1	9	2	16
3:00	1		0		1		15:00	1		2		3	
3:15	0		1		1		15:15	2		2		4	
3:30	0		0		0		15:30	3		1		4	
3:45	0	1	1	2	1	3	15:45	1	7	2	7	3	14
4:00	1		2		3		16:00	3		2		5	
4:15	5		3		8		16:15	4		5		9	
4:30	4		5		9		16:30	3		5		8	
4:45	4	14	6	16	10	30	16:45	4	14	2	14	6	28
5:00	4		6		10		17:00	4		4		8	
5:15	5		9		14		17:15	2		3		5	
5:30	3		9		12		17:30	5		1		6	
5:45	1	13	4	28	5	41	17:45	4	15	1	9	5	24
6:00	0		3		3		18:00	2		2		4	
6:15	6		3		9		18:15	3		2		5	
6:30	3		3		6		18:30	3		2		5	
6:45	1	10	0	9	1	19	18:45	2	10	2	8	4	18
7:00	5		0		5		19:00	4		0		4	
7:15	1		4		5		19:15	1		2		3	
7:30	7		3		10		19:30	6		0		6	
7:45	2	15	2	9	4	24	19:45	0	11	2	4	2	15
8:00	5		1		6		20:00	2		3		5	
8:15	4		3		7		20:15	3		1		4	
8:30	3		3		6		20:30	2		2		4	
8:45	2	14	7	14	9	28	20:45	2	9	2	8	4	17
9:00	3		2		5		21:00	3		2		5	
9:15	1		0		1		21:15	2		2		4	
9:30	1		1		2		21:30	2		0		2	
9:45	4	9	2	5	6	14	21:45	2	9	0	4	2	13
10:00	4		3		7		22:00	2		4		6	
10:15	8		4		12		22:15	1		1		2	
10:30	0		1		1		22:30	8		3		11	
10:45	2	14	4	12	6	26	22:45	1	12	1	9	2	21
11:00	2		1		3		23:00	0		0		0	
11:15	3		2		5		23:15	1		1		2	
11:30	4		2		6		23:30	1		2		3	
11:45	2	11	5	10	7	21	23:45	0	2	0	3	0	5
TOTALS		104		109		**213**	**TOTALS**		125		97		**222**
SPLIT %		48.8%		51.2%		**49.0%**	**SPLIT %**		56.3%		43.7%		**51.0%**

DAILY TOTALS	IN	OUT		Total
	229	206		435

AM Peak Hour	7:30	4:45			**4:45**	**PM Peak Hour**	12:45	16:15			**16:15**
AM Pk Volume	18	30			**46**	**PM Pk Volume**	21	16			**31**
Pk Hr Factor	0.643	0.833			**0.821**	**Pk Hr Factor**	0.875	0.800			**0.861**
7 - 9 Volume	29	23	0	0	**52**	**4 - 6 Volume**	29	23	0	0	**52**
7 - 9 Peak Hour	7:30	8:00			**8:00**	**4 - 6 Peak Hour**	16:15	16:15			**16:15**
7 - 9 Pk Volume	18	14	0	0	**28**	**4 - 6 Pk Volume**	15	16	0	0	**31**
Pk Hr Factor	0.643	0.500	0.000	0.000	**0.778**	**Pk Hr Factor**	0.938	0.800	0.000	0.000	**0.861**

Prepared by National Data & Surveying Services

IN & OUT

Howard Rd & McDonald's Dwy

Day: Tuesday
Date: 10/8/2019

City: Westley
Project #: CA_19_7370_002

DAILY TOTALS	IN	OUT	Total
	775	799	1,574

AM Period	IN		OUT		TOTAL		PM Period	IN		OUT		TOTAL	
0:00	4		5		9		12:00	13		11		24	
0:15	2		4		6		12:15	9		11		20	
0:30	2		2		4		12:30	10		12		22	
0:45	0	8	1	12	1	20	12:45	5	37	9	43	14	80
1:00	1		0		1		13:00	12		13		25	
1:15	0		0		0		13:15	15		21		36	
1:30	0		3		3		13:30	11		11		22	
1:45	1	2	0	3	1	5	13:45	7	45	11	56	18	101
2:00	0		1		1		14:00	19		8		27	
2:15	0		0		0		14:15	8		13		21	
2:30	0		0		0		14:30	9		14		23	
2:45	0		0	1	0	1	14:45	11	47	8	43	19	90
3:00	1		0		1		15:00	9		12		21	
3:15	2		2		4		15:15	9		6		15	
3:30	0		0		0		15:30	14		11		25	
3:45	2	5	0	2	2	7	15:45	17	49	11	40	28	89
4:00	6		5		11		16:00	11		16		27	
4:15	12		11		23		16:15	17		15		32	
4:30	10		4		14		16:30	7		15		22	
4:45	8	36	8	28	16	64	16:45	13	48	10	56	23	104
5:00	21		9		30		17:00	7		8		15	
5:15	21		10		31		17:15	8		14		22	
5:30	12		13		25		17:30	14		12		26	
5:45	15	69	11	43	26	112	17:45	13	42	12	46	25	88
6:00	9		7		16		18:00	4		12		16	
6:15	12		10		22		18:15	10		10		20	
6:30	10		16		26		18:30	13		15		28	
6:45	7	38	8	41	15	79	18:45	5	32	11	48	16	80
7:00	12		11		23		19:00	5		10		15	
7:15	12		10		22		19:15	10		5		15	
7:30	6		9		15		19:30	12		10		22	
7:45	11	41	14	44	25	85	19:45	10	37	10	35	20	72
8:00	12		15		27		20:00	4		7		11	
8:15	14		13		27		20:15	6		8		14	
8:30	17		15		32		20:30	5		6		11	
8:45	12	55	5	48	17	103	20:45	2	17	2	23	4	40
9:00	17		16		33		21:00	3		2		5	
9:15	7		18		25		21:15	5		8		13	
9:30	12		9		21		21:30	1		7		8	
9:45	12	48	9	52	21	100	21:45	3	12	2	19	5	31
10:00	9		9		18		22:00	9		3		12	
10:15	8		13		21		22:15	4		3		7	
10:30	10		16		26		22:30	2		11		13	
10:45	6	33	9	47	15	80	22:45	5	20	5	22	10	42
11:00	12		5		17		23:00	3		7		10	
11:15	12		14		26		23:15	2		1		3	
11:30	9		7		16		23:30	5		3		8	
11:45	10	43	7	33	17	76	23:45	1	11	3	14	4	25
TOTALS		378		354		**732**	**TOTALS**		397		445		**842**
SPLIT %		51.6%		48.4%		**46.5%**	**SPLIT %**		47.1%		52.9%		**53.5%**

DAILY TOTALS	IN	OUT	Total
	775	799	1,574

AM Peak Hour	5:00	7:45			**5:00**	**PM Peak Hour**	15:30	15:45			**15:30**
AM Pk Volume	69	57			**112**	**PM Pk Volume**	59	57			**112**
Pk Hr Factor	0.821	0.950			**0.903**	**Pk Hr Factor**	0.868	0.891			**0.875**
7 - 9 Volume	96	92	0	0	**188**	**4 - 6 Volume**	90	102	0	0	**192**
7 - 9 Peak Hour	8:00	7:45			**7:45**	**4 - 6 Peak Hour**	16:00	16:00			**16:00**
7 - 9 Pk Volume	55	57	0	0	**111**	**4 - 6 Pk Volume**	48	56	0	0	**104**
Pk Hr Factor	0.809	0.950	0.000	0.000	**0.867**	**Pk Hr Factor**	0.706	0.875	0.000	0.000	**0.813**

Prepared by National Data & Surveying Services

IN & OUT

Howard Rd & Chevron N Dwy

Day: Tuesday
Date: 10/8/2019

City: Westley
Project #: CA_19_7370_003

DAILY TOTALS	IN	OUT	Total
	425	446	871

AM Period	IN		OUT		TOTAL		PM Period	IN		OUT		TOTAL	
0:00	4		2		6		12:00	7		9		16	
0:15	0		0		0		12:15	7		5		12	
0:30	2		2		4		12:30	2		5		7	
0:45	1	7	0	4	1	11	12:45	3	19	5	24	8	43
1:00	0		1		1		13:00	6		8		14	
1:15	2		1		3		13:15	8		6		14	
1:30	2		2		4		13:30	8		4		12	
1:45	3	7	2	6	5	13	13:45	5	27	6	24	11	51
2:00	1		1		2		14:00	4		8		12	
2:15	0		1		1		14:15	6		4		10	
2:30	2		3		5		14:30	4		4		8	
2:45	0	3	2	7	2	10	14:45	10	24	2	18	12	42
3:00	3		2		5		15:00	6		10		16	
3:15	1		6		7		15:15	10		7		17	
3:30	1		3		4		15:30	11		8		19	
3:45	0	5	5	16	5	21	15:45	8	35	8	33	16	68
4:00	3		3		6		16:00	9		10		19	
4:15	0		4		4		16:15	9		8		17	
4:30	2		9		11		16:30	10		9		19	
4:45	3	8	5	21	8	29	16:45	13	41	14	41	27	82
5:00	3		6		9		17:00	3		7		10	
5:15	2		6		8		17:15	6		7		13	
5:30	2		6		8		17:30	7		5		12	
5:45	5	12	6	24	11	36	17:45	5	21	7	26	12	47
6:00	3		5		8		18:00	13		10		23	
6:15	6		3		9		18:15	7		8		15	
6:30	3		3		6		18:30	8		6		14	
6:45	1	13	4	15	5	28	18:45	3	31	5	29	8	60
7:00	4		3		7		19:00	4		4		8	
7:15	1		6		7		19:15	3		1		4	
7:30	6		3		9		19:30	4		6		10	
7:45	3	14	4	16	7	30	19:45	8	19	6	17	14	36
8:00	4		4		8		20:00	6		7		13	
8:15	1		3		4		20:15	5		4		9	
8:30	6		4		10		20:30	5		1		6	
8:45	5	16	6	17	11	33	20:45	2	18	8	20	10	38
9:00	5		4		9		21:00	7		3		10	
9:15	6		4		10		21:15	7		3		10	
9:30	4		1		5		21:30	3		6		9	
9:45	5	20	4	13	9	33	21:45	3	20	2	14	5	34
10:00	3		6		9		22:00	6		7		13	
10:15	3		4		7		22:15	3		4		7	
10:30	5		3		8		22:30	7		3		10	
10:45	9	20	4	17	13	37	22:45	4	20	5	19	9	39
11:00	3		11		14		23:00	2		0		2	
11:15	4		2		6		23:15	1		2		3	
11:30	3		4		7		23:30	1		1		2	
11:45	9	19	2	19	11	38	23:45	2	6	3	6	5	12
TOTALS		144		175		**319**	**TOTALS**		281		271		**552**
SPLIT %		45.1%		54.9%		**36.6%**	**SPLIT %**		50.9%		49.1%		**63.4%**

DAILY TOTALS	IN	OUT	Total
	425	446	871

AM Peak Hour	11:30	4:30			**11:30**	**PM Peak Hour**	16:00	16:00			**16:00**
AM Pk Volume	26	26			**46**	**PM Pk Volume**	41	41			**82**
Pk Hr Factor	0.722	0.722			**0.719**	**Pk Hr Factor**	0.788	0.732			**0.759**
7 - 9 Volume	30	33	0	0	**63**	**4 - 6 Volume**	62	67	0	0	**129**
7 - 9 Peak Hour	8:00	7:15			**8:00**	**4 - 6 Peak Hour**	16:00	16:00			**16:00**
7 - 9 Pk Volume	16	17	0	0	**33**	**4 - 6 Pk Volume**	41	41	0	0	**82**
Pk Hr Factor	0.667	0.708	0.000	0.000	**0.750**	**Pk Hr Factor**	0.788	0.732	0.000	0.000	**0.759**

Prepared by National Data & Surveying Services

IN & OUT

Howard Rd & Chevron S Dwy

Day: Tuesday
Date: 10/8/2019

City: Westley
Project #: CA_19_7370_004

DAILY TOTALS	IN	OUT	Total
	211	192	403

AM Period	IN		OUT		TOTAL		PM Period	IN		OUT		TOTAL	
0:00	0		3		3		12:00	3		3		6	
0:15	0		0		0		12:15	2		3		5	
0:30	1		1		2		12:30	2		0		2	
0:45	0	1	0	4	0	5	12:45	2	9	0	6	2	15
1:00	0		0		0		13:00	1		1		2	
1:15	0		0		0		13:15	3		0		3	
1:30	0		1		1		13:30	4		5		9	
1:45	1	1	1	2	2	3	13:45	1	9	3	9	4	18
2:00	1		1		2		14:00	7		3		10	
2:15	0		0		0		14:15	1		4		5	
2:30	2		0		2		14:30	3		4		7	
2:45	1	4	0	1	1	5	14:45	1	12	3	14	4	26
3:00	2		0		2		15:00	3		6		9	
3:15	2		0		2		15:15	3		2		5	
3:30	6		2		8		15:30	0		3		3	
3:45	5	15	0	2	5	17	15:45	2	8	7	18	9	26
4:00	3		1		4		16:00	5		3		8	
4:15	4		1		5		16:15	2		6		8	
4:30	10		2		12		16:30	6		3		9	
4:45	6	23	2	6	8	29	16:45	2	15	4	16	6	31
5:00	2		1		3		17:00	2		2		4	
5:15	8		2		10		17:15	2		2		4	
5:30	4		2		6		17:30	3		2		5	
5:45	4	18	3	8	7	26	17:45	3	10	2	8	5	18
6:00	4		3		7		18:00	3		4		7	
6:15	0		2		2		18:15	2		2		4	
6:30	0		0		0		18:30	1		5		6	
6:45	3	7	0	5	3	12	18:45	2	8	3	14	5	22
7:00	3		1		4		19:00	0		0		0	
7:15	2		1		3		19:15	1		1		2	
7:30	3		2		5		19:30	1		1		2	
7:45	4	12	2	6	6	18	19:45	3	5	1	3	4	8
8:00	5		3		8		20:00	1		1		2	
8:15	3		5		8		20:15	2		3		5	
8:30	3		2		5		20:30	1		7		8	
8:45	1	12	3	13	4	25	20:45	5	9	1	12	6	21
9:00	3		3		6		21:00	0		1		1	
9:15	3		4		7		21:15	0		5		5	
9:30	0		3		3		21:30	4		0		4	
9:45	0	6	0	10	0	16	21:45	1	5	3	9	4	14
10:00	4		2		6		22:00	1		2		3	
10:15	1		1		2		22:15	0		1		1	
10:30	7		4		11		22:30	0		1		1	
10:45	1	13	2	9	3	22	22:45	0	1	1	5	1	6
11:00	1		2		3		23:00	0		1		1	
11:15	4		0		4		23:15	1		0		1	
11:30	1		2		3		23:30	0		1		1	
11:45	1	7	6	10	7	17	23:45	0	1	0	2	0	3
TOTALS		119		76		**195**	**TOTALS**		92		116		**208**
SPLIT %		61.0%		39.0%		**48.4%**	**SPLIT %**		44.2%		55.8%		**51.6%**

DAILY TOTALS	IN	OUT	Total
	211	192	403

AM Peak Hour	4:30	11:30			**4:30**		**PM Peak Hour**	13:15	15:30			**15:45**	
AM Pk Volume	26	14			**33**		**PM Pk Volume**	15	19			**34**	
Pk Hr Factor	0.650	0.583			**0.688**		**Pk Hr Factor**	0.536	0.679			**0.944**	
7 - 9 Volume	24	19	0	0	**43**		**4 - 6 Volume**	25	24	0	0	**49**	
7 - 9 Peak Hour	7:30	8:00			**7:30**		**4 - 6 Peak Hour**	16:00	16:00			**16:00**	
7 - 9 Pk Volume	15	13	0	0	**27**		**4 - 6 Pk Volume**	15	16	0	0	**31**	
Pk Hr Factor	0.750	0.650	0.000	0.000	**0.844**		**Pk Hr Factor**	0.625	0.667	0.000	0.000	**0.861**	

Prepared by National Data & Surveying Services

IN & OUT

Howard Rd & Holiday Inn Express Westley Dwy

Day: Tuesday
Date: 10/8/2019

City: Westley
Project #: CA_19_7370_005

DAILY TOTALS	IN	OUT	Total
	77	88	165

AM Period	IN		OUT		TOTAL		PM Period	IN		OUT		TOTAL	
0:00	0		0		0		12:00	0		0		0	
0:15	1		1		2		12:15	3		0		3	
0:30	0		0		0		12:30	0		3		3	
0:45	0	1	0	1	0	2	12:45	1	4	1	4	2	8
1:00	0		0		0		13:00	3		2		5	
1:15	1		0		1		13:15	4		2		6	
1:30	0		0		0		13:30	0		1		1	
1:45	0	1	0		0	1	13:45	0	7	2	7	2	14
2:00	1		0		1		14:00	2		0		2	
2:15	0		3		3		14:15	0		2		2	
2:30	1		1		2		14:30	0		0		0	
2:45	0	2	0	4	0	6	14:45	2	4	0	2	2	6
3:00	0		0		0		15:00	0		1		1	
3:15	0		3		3		15:15	1		1		2	
3:30	1		2		3		15:30	0		2		2	
3:45	0	1	1	6	1	7	15:45	0	1	1	5	1	6
4:00	0		0		0		16:00	0		1		1	
4:15	0		6		6		16:15	2		1		3	
4:30	0		1		1		16:30	3		1		4	
4:45	0		0	7	0	7	16:45	1	6	2	5	3	11
5:00	0		0		0		17:00	4		1		5	
5:15	0		0		0		17:15	2		1		3	
5:30	1		1		2		17:30	3		2		5	
5:45	0	1	0	1	0	2	17:45	2	11	3	7	5	18
6:00	2		0		2		18:00	4		5		9	
6:15	1		3		4		18:15	0		0		0	
6:30	0		0		0		18:30	0		0		0	
6:45	1	4	1	4	2	8	18:45	1	5	0	5	1	10
7:00	0		0		0		19:00	0		0		0	
7:15	0		1		1		19:15	0		0		0	
7:30	5		2		7		19:30	0		1		1	
7:45	1	6	1	4	2	10	19:45	0		0	1	0	1
8:00	3		2		5		20:00	0		0		0	
8:15	0		0		0		20:15	4		0		4	
8:30	0		2		2		20:30	1		2		3	
8:45	1	4	1	5	2	9	20:45	0	5	0	2	0	7
9:00	2		3		5		21:00	1		0		1	
9:15	2		4		6		21:15	0		0		0	
9:30	1		1		2		21:30	1		1		2	
9:45	1	6	0	8	1	14	21:45	3	5	1	2	4	7
10:00	0		2		2		22:00	2		1		3	
10:15	0		0		0		22:15	0		1		1	
10:30	0		0		0		22:30	1		2		3	
10:45	0		1	3	1	3	22:45	0	3	0	4	0	7
11:00	0		0		0		23:00	0		0		0	
11:15	0		0		0		23:15	0		0		0	
11:30	0		0		0		23:30	0		0		0	
11:45	0		1	1	1	1	23:45	0		0		0	
TOTALS	26		44			**70**	**TOTALS**	51		44			**95**
SPLIT %	37.1%		62.9%			**42.4%**	**SPLIT %**	53.7%		46.3%			**57.6%**

DAILY TOTALS	IN	OUT	Total
	77	88	165

AM Peak Hour	7:15	8:30			**7:15**	**PM Peak Hour**	17:00	17:15			**17:15**
AM Pk Volume	9	10			**15**	**PM Pk Volume**	11	11			**22**
Pk Hr Factor	0.450	0.625			**0.536**	**Pk Hr Factor**	0.688	0.550			**0.611**
7 - 9 Volume	10	9	0	0	**19**	**4 - 6 Volume**	17	12	0	0	**29**
7 - 9 Peak Hour	7:15	7:15			**7:15**	**4 - 6 Peak Hour**	17:00	17:00			**17:00**
7 - 9 Pk Volume	9	6	0	0	**15**	**4 - 6 Pk Volume**	11	7	0	0	**18**
Pk Hr Factor	0.450	0.750	0.000	0.000	**0.536**	**Pk Hr Factor**	0.688	0.583	0.000	0.000	**0.900**

Prepared by National Data & Surveying Services

IN & OUT

Howard Rd & 76 Food Mart Diesel #2 N Dwy

Day: Tuesday
Date: 10/8/2019

City: Westley
Project #: CA_19_7370_006

DAILY TOTALS	IN	OUT	Total
	118	79	197

AM Period	IN		OUT		TOTAL		PM Period	IN		OUT		TOTAL	
0:00	2		0		2		12:00	1		2		3	
0:15	0		2		2		12:15	0		0		0	
0:30	0		0		0		12:30	1		2		3	
0:45	0	2	0	2	0	4	12:45	4	6	1	5	5	11
1:00	0		1		1		13:00	4		1		5	
1:15	0		0		0		13:15	2		0		2	
1:30	0		0		0		13:30	3		2		5	
1:45	0		0	1	0	1	13:45	3	12	1	4	4	16
2:00	1		0		1		14:00	2		0		2	
2:15	1		1		2		14:15	0		0		0	
2:30	1		0		1		14:30	2		1		3	
2:45	0	3	0	1	0	4	14:45	2	6	0	1	2	7
3:00	0		0		0		15:00	0		2		2	
3:15	0		0		0		15:15	3		1		4	
3:30	0		0		0		15:30	5		0		5	
3:45	0		0		0		15:45	2	10	2	5	4	15
4:00	0		0		0		16:00	3		4		7	
4:15	0		0		0		16:15	2		1		3	
4:30	1		1		2		16:30	4		1		5	
4:45	1	2	3	4	4	6	16:45	6	15	0	6	6	21
5:00	0		3		3		17:00	1		1		2	
5:15	1		1		2		17:15	5		0		5	
5:30	0		0		0		17:30	0		1		1	
5:45	0	1	0	4	0	5	17:45	3	9	0	2	3	11
6:00	0		0		0		18:00	2		3		5	
6:15	2		0		2		18:15	1		1		2	
6:30	0		1		1		18:30	2		0		2	
6:45	0	2	0	1	0	3	18:45	1	6	0	4	1	10
7:00	1		1		2		19:00	0		2		2	
7:15	3		1		4		19:15	0		1		1	
7:30	4		0		4		19:30	1		1		2	
7:45	5	13	0	2	5	15	19:45	1	2	0	4	1	6
8:00	1		0		1		20:00	0		0		0	
8:15	3		3		6		20:15	1		2		3	
8:30	1		0		1		20:30	0		1		1	
8:45	1	6	0	3	1	9	20:45	1	2	2	5	3	7
9:00	3		0		3		21:00	0		1		1	
9:15	1		1		2		21:15	0		0		0	
9:30	3		3		6		21:30	0		0		0	
9:45	0	7	1	5	1	12	21:45	0		0	1	0	1
10:00	0		1		1		22:00	0		3		3	
10:15	1		0		1		22:15	0		0		0	
10:30	0		2		2		22:30	1		0		1	
10:45	6	7	2	5	8	12	22:45	0	1	0	3	0	4
11:00	1		3		4		23:00	0		1		1	
11:15	2		4		6		23:15	2		1		3	
11:30	1		1		2		23:30	0		0		0	
11:45	0	4	1	9	1	13	23:45	0	2	0	2	0	4
TOTALS		47		37		**84**	**TOTALS**		71		42		**113**
SPLIT %		56.0%		44.0%		**42.6%**	**SPLIT %**		62.8%		37.2%		**57.4%**

DAILY TOTALS	IN	OUT	Total
	118	79	197

AM Peak Hour	7:00	10:30			**10:30**	**PM Peak Hour**	16:30	15:45			**16:00**
AM Pk Volume	13	11			**20**	**PM Pk Volume**	16	8			**21**
Pk Hr Factor	0.650	0.688			**0.625**	**Pk Hr Factor**	0.667	0.500			**0.750**
7 - 9 Volume	19	5	0	0	**24**	**4 - 6 Volume**	24	8	0	0	**32**
7 - 9 Peak Hour	7:00	7:30			**7:30**	**4 - 6 Peak Hour**	16:30	16:00			**16:00**
7 - 9 Pk Volume	13	3	0	0	**16**	**4 - 6 Pk Volume**	16	6	0	0	**21**
Pk Hr Factor	0.650	0.250	0.000	0.000	**0.667**	**Pk Hr Factor**	0.667	0.375	0.000	0.000	**0.750**

Prepared by National Data & Surveying Services

IN & OUT

Howard Rd & 76 Food Mart Diesel #2 S Dwy

Day: Tuesday
Date: 10/8/2019

City: Westley
Project #: CA_19_7370_007

DAILY TOTALS	IN	OUT	Total
	72	112	184

AM Period	IN		OUT		TOTAL		PM Period	IN		OUT		TOTAL	
0:00	0		1		1		12:00	2		0		2	
0:15	1		1		2		12:15	1		1		2	
0:30	1		1		2		12:30	2		2		4	
0:45	1	3	0	3	1	6	12:45	2	7	1	4	3	11
1:00	0		0		0		13:00	0		3		3	
1:15	0		0		0		13:15	0		0		0	
1:30	0		0		0		13:30	3		5		8	
1:45	0		0		0		13:45	0	3	3	11	3	14
2:00	0		0		0		14:00	0		4		4	
2:15	0		0		0		14:15	0		0		0	
2:30	0		2		2		14:30	1		3		4	
2:45	0		0	2	0	2	14:45	0	1	0	7	0	8
3:00	0		0		0		15:00	3		2		5	
3:15	0		0		0		15:15	0		1		1	
3:30	0		0		0		15:30	2		4		6	
3:45	0		0		0		15:45	3	8	4	11	7	19
4:00	0		0		0		16:00	2		3		5	
4:15	1		0		1		16:15	0		3		3	
4:30	1		1		2		16:30	1		1		2	
4:45	3	5	0	1	3	6	16:45	0	3	3	10	3	13
5:00	1		1		2		17:00	0		6		6	
5:15	1		0		1		17:15	0		1		1	
5:30	0		1		1		17:30	0		3		3	
5:45	0	2	0	2	0	4	17:45	0		2	12	2	12
6:00	0		0		0		18:00	1		1		2	
6:15	1		1		2		18:15	1		0		1	
6:30	0		0		0		18:30	0		2		2	
6:45	1	2	1	2	2	4	18:45	1	3	2	5	3	8
7:00	1		1		2		19:00	2		0		2	
7:15	1		2		3		19:15	1		0		1	
7:30	0		3		3		19:30	0		1		1	
7:45	0	2	3	9	3	11	19:45	2	5	1	2	3	7
8:00	1		3		4		20:00	0		0		0	
8:15	1		2		3		20:15	2		0		2	
8:30	0		1		1		20:30	2		1		3	
8:45	0	2	1	7	1	9	20:45	2	6	1	2	3	8
9:00	0		2		2		21:00	1		2		3	
9:15	1		2		3		21:15	1		1		2	
9:30	2		1		3		21:30	0		1		1	
9:45	1	4	2	7	3	11	21:45	2	4	0	4	2	8
10:00	0		0		0		22:00	0		0		0	
10:15	1		1		2		22:15	0		0		0	
10:30	1		0		1		22:30	1		1		2	
10:45	3	5	2	3	5	8	22:45	0	1	1	2	1	3
11:00	2		3		5		23:00	1		0		1	
11:15	2		0		2		23:15	0		1		1	
11:30	0		1		1		23:30	0		0		0	
11:45	1	5	1	5	2	10	23:45	0	1	0	1	0	2
TOTALS		30		41		**71**	**TOTALS**		42		71		**113**
SPLIT %		42.3%		57.7%		**38.6%**	**SPLIT %**		37.2%		62.8%		**61.4%**

DAILY TOTALS	IN	OUT	Total
	72	112	184

AM Peak Hour	10:30	7:15			**7:15**	**PM Peak Hour**	15:00	15:30			**15:30**
AM Pk Volume	8	11			**13**	**PM Pk Volume**	8	14			**21**
Pk Hr Factor	0.667	0.917			**0.813**	**Pk Hr Factor**	0.667	0.875			**0.750**
7 - 9 Volume	4	16	0	0	**20**	**4 - 6 Volume**	3	22	0	0	**25**
7 - 9 Peak Hour	7:00	7:15			**7:15**	**4 - 6 Peak Hour**	16:00	16:15			**16:15**
7 - 9 Pk Volume	2	11	0	0	**13**	**4 - 6 Pk Volume**	3	13	0	0	**14**
Pk Hr Factor	0.500	0.917	0.000	0.000	**0.813**	**Pk Hr Factor**	0.375	0.542	0.000	0.000	**0.583**

Prepared by National Data & Surveying Services

IN & OUT

Howard Rd & Carl's Jr Dwy

Day: Tuesday
Date: 10/8/2019

City: Westley
Project #: CA_19_7370_008

DAILY TOTALS	IN	OUT	Total
	302	301	603

AM Period	IN		OUT		TOTAL		PM Period	IN		OUT		TOTAL	
0:00	1		2		3		12:00	2		5		7	
0:15	1		0		1		12:15	3		4		7	
0:30	0		0		0		12:30	5		6		11	
0:45	3	5	2	4	5	9	12:45	5	15	2	17	7	32
1:00	0		1		1		13:00	5		6		11	
1:15	0		0		0		13:15	7		4		11	
1:30	0		0		0		13:30	1		6		7	
1:45	1	1	0	1	1	2	13:45	7	20	3	19	10	39
2:00	1		0		1		14:00	6		7		13	
2:15	1		3		4		14:15	6		5		11	
2:30	1		0		1		14:30	8		5		13	
2:45	0	3	0	3	0	6	14:45	3	23	10	27	13	50
3:00	0		0		0		15:00	2		3		5	
3:15	1		2		3		15:15	7		3		10	
3:30	3		2		5		15:30	3		4		7	
3:45	5	9	3	7	8	16	15:45	7	19	5	15	12	34
4:00	4		2		6		16:00	8		5		13	
4:15	1		4		5		16:15	2		5		7	
4:30	0		2		2		16:30	5		4		9	
4:45	1	6	1	9	2	15	16:45	6	21	8	22	14	43
5:00	1		2		3		17:00	5		7		12	
5:15	0		0		0		17:15	4		2		6	
5:30	2		0		2		17:30	3		5		8	
5:45	1	4	2	4	3	8	17:45	9	21	5	19	14	40
6:00	0		1		1		18:00	5		7		12	
6:15	1		0		1		18:15	2		3		5	
6:30	6		4		10		18:30	4		5		9	
6:45	3	10	6	11	9	21	18:45	4	15	4	19	8	34
7:00	1		3		4		19:00	2		3		5	
7:15	4		1		5		19:15	8		3		11	
7:30	3		2		5		19:30	5		5		10	
7:45	2	10	2	8	4	18	19:45	4	19	2	13	6	32
8:00	3		4		7		20:00	5		0		5	
8:15	3		4		7		20:15	0		4		4	
8:30	2		0		2		20:30	6		4		10	
8:45	2	10	6	14	8	24	20:45	2	13	8	16	10	29
9:00	2		4		6		21:00	3		3		6	
9:15	0		3		3		21:15	2		2		4	
9:30	5		2		7		21:30	2		0		2	
9:45	3	10	1	10	4	20	21:45	2	9	3	8	5	17
10:00	5		2		7		22:00	1		2		3	
10:15	8		7		15		22:15	3		1		4	
10:30	4		5		9		22:30	4		1		5	
10:45	0	17	3	17	3	34	22:45	3	11	5	9	8	20
11:00	7		3		10		23:00	1		3		4	
11:15	5		7		12		23:15	2		1		3	
11:30	6		5		11		23:30	1		2		3	
11:45	8	26	7	22	15	48	23:45	1	5	1	7	2	12
TOTALS		111		110		**221**	**TOTALS**		191		191		**382**
SPLIT %		50.2%		49.8%		**36.7%**	**SPLIT %**		50.0%		50.0%		**63.3%**

DAILY TOTALS	IN	OUT	Total
	302	301	603

AM Peak Hour	11:00	11:15			**11:00**	**PM Peak Hour**	13:45	14:00			**14:00**
AM Pk Volume	26	24			**48**	**PM Pk Volume**	27	27			**50**
Pk Hr Factor	0.813	0.857			**0.800**	**Pk Hr Factor**	0.844	0.675			**0.962**
7 - 9 Volume	20	22	0	0	**42**	**4 - 6 Volume**	42	41	0	0	**83**
7 - 9 Peak Hour	7:15	8:00			**8:00**	**4 - 6 Peak Hour**	16:00	16:15			**16:00**
7 - 9 Pk Volume	12	14	0	0	**24**	**4 - 6 Pk Volume**	21	24	0	0	**43**
Pk Hr Factor	0.750	0.583	0.000	0.000	**0.750**	**Pk Hr Factor**	0.656	0.750	0.000	0.000	**0.768**

Appendix C: Driveway Counts Summary

Table C1 Summary of Observed Driveway Counts at Panoche Site

Side	Vehicle type	Driveway Counts									
		Daily	AM Peak Hour			Midday			PM Peak Hour		
			In	Out	Total	In	Out	Total	In	Out	Total
North side	Autos (Class 1,2, & 3)	3,812	175	167	342	202	208	410	182	176	358
	Medium Trucks (Class 4 to 7)	186	8	6	14	13	8	21	8	5	13
	Heavy Trucks (Class 8 to 14)	141	8	2	10	5	3	8	3	3	6
	North Side TOTAL	4,139	191	175	366	220	219	439	193	184	377
South Side	Autos (Class 1,2, & 3)	1,395	37	41	78	88	93	181	70	75	145
	Medium Trucks (Class 4 to 7)	88	2	2	4	1	4	5	6	7	13
	Heavy Trucks (Class 8 to 14)	13	0	0	0	2	2	4	1	1	2
	South Side Total	1,496	39	43	82	91	99	190	77	83	160
GRAND TOTAL		5,635	230	218	448	311	318	629	270	267	537

Table C2 Summary of Observed Driveway Counts at Stockdale Site

Commercial Site	Driveway Counts								
	Daily	AM Peak Hour			PM Peak Hour			Peak Hour	
		In	Out	Total	In	Out	Total	AM	PM
GRAND TOTAL	4,113	85	97	182	118	112	230	7:00am	4:45pm

Table C3 Summary of Observed Driveway Counts at Westley Site

Commercial Site	Driveway Counts								
	Daily	AM Peak Hour			PM Peak Hour			Peak Hour	
		In	Out	Total	In	Out	Total	AM	PM
McDonalds	2,009	68	66	134	62	70	132	7:45am	4:00pm
Chevron	1,274	28	30	58	56	57	113	8:00am	4:00pm
Holiday Inn Express	165	9	6	15	11	7	18	7:15am	5:00pm
76 (Gas Station and Convenience Mart)	381	15	14	29	18	16	34	7:30am	4:00pm
Carl's Jr	603	10	14	24	21	22	43	8:00am	4:00pm
GRAND TOTAL	4,432	130	130	260	168	172	340		

Table C4 Comparison of ITE Published Rates and Observed Driveway Counts at Studied Sites

	Commercial Site	Data Source	Trips						
				AM Peak Hour			PM Peak Hour		
			Daily	In	Out	Total	In	Out	Total
Westley	Fast Food (with drive thru) *McDonalds & Carl's Jr*	Estimates - ITE Trip Rates	4,000	174	167	341	145	133	278
		Driveway Counts	2,612	78	80	158	83	92	175
		Difference	*-1,388*	*-96*	*-87*	*-183*	*-62*	*-41*	*-103*
		ITE/Counts Ratio	*1.53*	*2.23*	*2.09*	*2.16*	*1.75*	*1.45*	*1.59*
	Hotel *Holiday Inn Express*	Estimates - ITE Trip Rates	706	19	13	32	24	23	47
		Driveway Counts	165	9	6	15	11	7	18
		Difference	*-541*	*-10*	*-7*	*-17*	*-13*	*-16*	*-29*
		ITE/Counts Ratio	*4.28*	*2.11*	*2.17*	*2.13*	*2.18*	*3.29*	*2.61*
	Gasoline Station w/Convenience *Chevron & 76*	Estimates - ITE Trip Rates	6,413	202	194	396	209	199	408
		Driveway Counts	1,655	43	44	87	74	73	147
		Difference	*-4,758*	*-159*	*-150*	*-309*	*-135*	*-126*	*-261*
		ITE/Counts Ratio	*3.87*	*4.70*	*4.41*	*4.55*	*2.82*	*2.73*	*2.78*
Panoche	North of Panoche	Estimates - ITE Trip Rates	12,057	395	380	775	391	372	763
		Driveway Counts	4,139	191	175	366	193	184	377
		Difference	*-7,918*	*-204*	*-205*	*-409*	*-198*	*-188*	*-386*
		ITE/Counts Ratio	*2.91*	*2.07*	*2.17*	*2.12*	*2.03*	*2.02*	*2.02*
	South of Panoche	Estimates - ITE Trip Rates	8,870	255	244	499	282	269	551
		Driveway Counts	1,496	39	43	82	77	83	160
		Difference	*-7,374*	*-216*	*-201*	*-417*	*-205*	*-186*	*-391*
		ITE/Counts Ratio	*5.93*	*6.54*	*5.67*	*6.09*	*3.66*	*3.24*	*3.44*
Stockdale	**Total**	Estimates - ITE Trip Rates	8,590	329	288	617	303	292	595
		Driveway Counts	4,113	85	97	182	118	112	230
		Difference	*-4,477*	*-244*	*-191*	*-435*	*-185*	*-180*	*-365*
		ITE/Counts Ratio							

Table C5 Summary Comparison of ITE Published Rates and Observed Driveway Counts at Studied Site

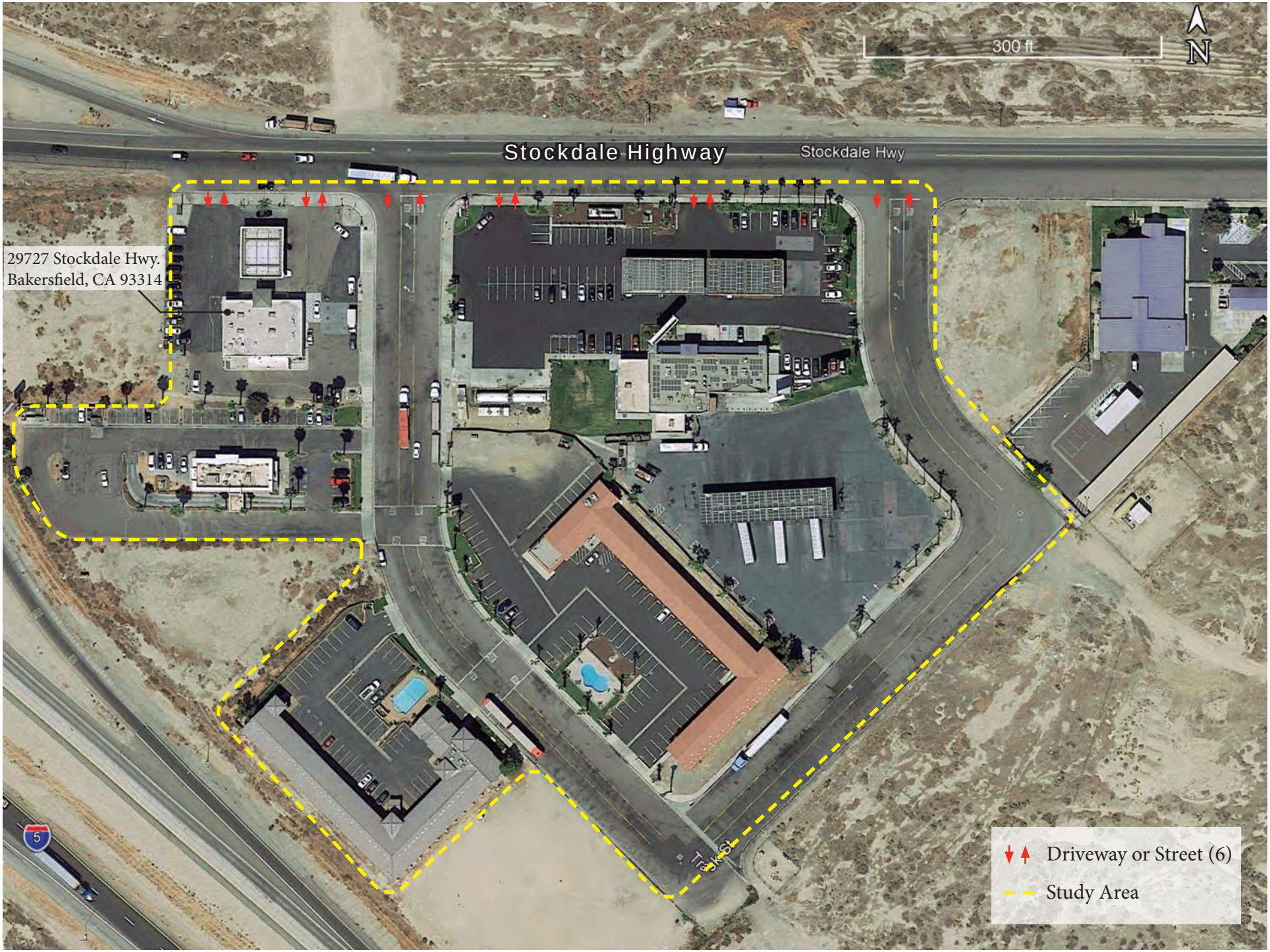
Commercial Site	Data Source	Daily	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
Panoche	Estimates - ITE Trip Rates	20,927	650	624	1274	673	641	1314
	Driveway Counts	5635	230	218	448	270	267	537
	Difference	*-15,292*	*-420*	*-406*	*-826*	*-403*	*-374*	*-777*
	ITE/Counts Ratio	*3.71*	*2.83*	*2.86*	*2.84*	*2.49*	*2.40*	*2.45*
Stockdale	Estimates - ITE Trip Rates	8,590	329	288	617	303	292	595
	Driveway Counts	4,113	85	97	182	118	112	230
	Difference	*-4,477*	*-244*	*-191*	*-435*	*-185*	*-180*	*-365*
	ITE/Counts Ratio	*2.09*	*3.87*	*2.97*	*3.39*	*2.57*	*2.61*	*2.59*
Westley	Estimates - ITE Trip Rates	11,119	395	374	769	378	355	733
	Driveway Counts	4432	130	130	260	168	172	340
	Difference	*-6,687*	*-265*	*-244*	*-509*	*-210*	*-183*	*-393*
	ITE/Counts Ratio	*2.51*	*3.04*	*2.88*	*2.96*	*2.25*	*2.06*	*2.16*

Appendix D: Traffic Count Locations



Panoche Road at I-5 // Firebaugh, CA

Traffic Count Location



Stockdale Highway at I-5 // Kern County, CA

Traffic Count Location



Ingram Creek Road at I-5 // Stanislaus County, CA

Traffic Count Location

Attachment C: Community Employment Profile

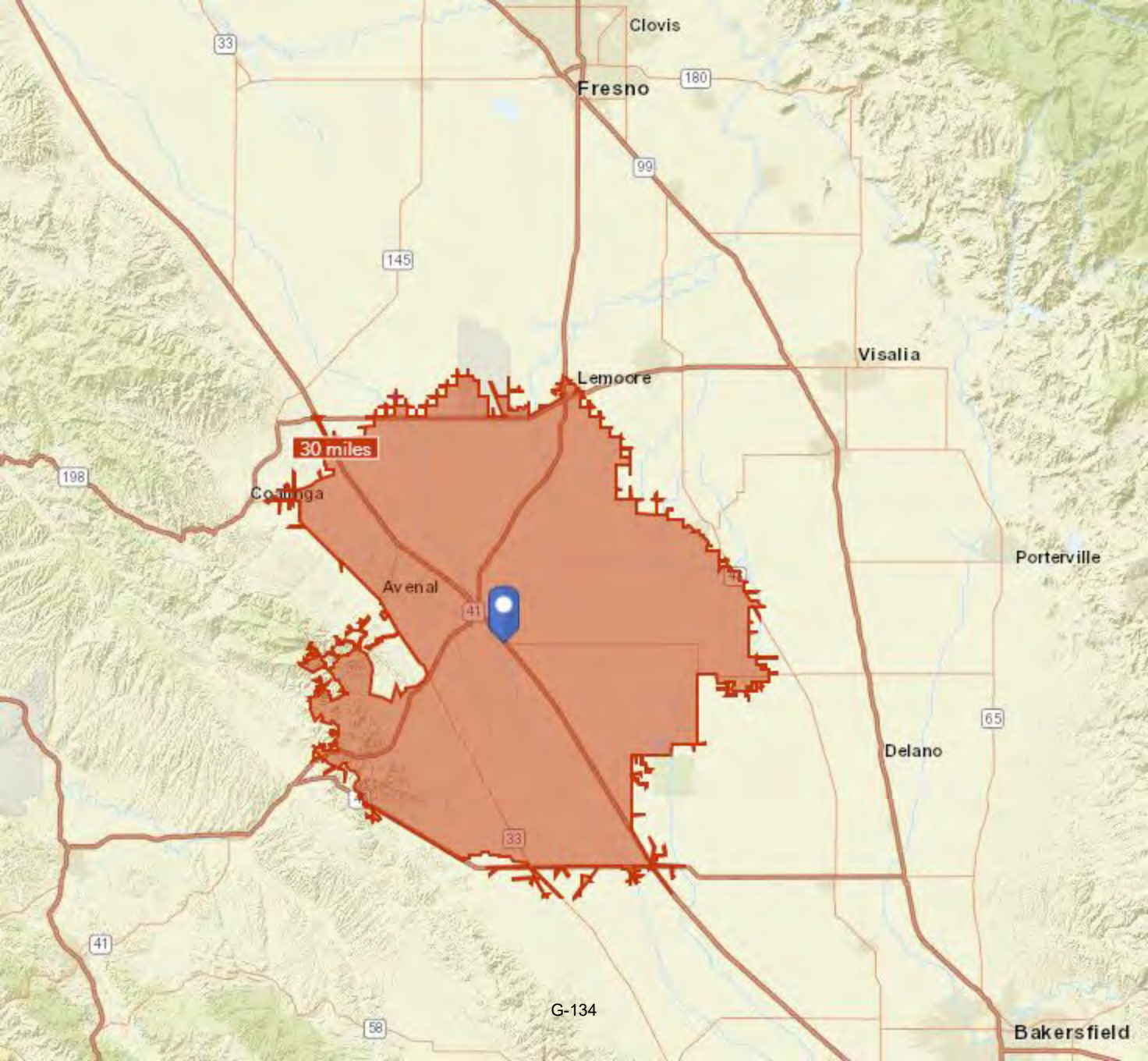
Home Destination Report:
Where Workers Live Who are Employed in the Selection Area
-by Places (Cities, CDPs, etc.)

Total All Jobs

	2015		2014		2013	
	Count	Share	Count	Share	Count	Share
Total All Jobs	17,966	100.0%	15,868	100.0%	14,921	100.0%

Jobs Counts by Places (Cities, CDPs, etc.) Where Workers Live - All Jobs

	2015		2014		2013	
	Count	Share	Count	Share	Count	Share
Hanford city, CA	2,212	12.3%	1,985	12.5%	1,932	12.9%
Lemoore city, CA	2,078	11.6%	1,971	12.4%	1,881	12.6%
Coalinga city, CA	1,114	6.2%	971	6.1%	932	6.2%
Avenal city, CA	1,094	6.1%	906	5.7%	940	6.3%
Visalia city, CA	1,071	6.0%	742	4.7%	744	5.0%
Fresno city, CA	957	5.3%	780	4.9%	710	4.8%
Corcoran city, CA	640	3.6%	495	3.1%	485	3.3%
Tulare city, CA	519	2.9%	350	2.2%	332	2.2%
Porterville city, CA	451	2.5%	301	1.9%	316	2.1%
Bakersfield city, CA	409	2.3%	358	2.3%	342	2.3%
All Other Locations	7,421	41.3%	7,009	44.2%	6,307	42.3%


Clovis
Fresno
Visalia
Lemoore
30 miles
Coalinga
Avenal
Porterville
Delano
Bakersfield
33
180
99
145
198
41
65
58

Attachment D: Internal Capture Rates Calculations

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Jackson Ranch	**Organization:**	PlaceWorks
Project Location:	Kings County	**Performed By:**	Fernando Sotelo
Scenario Description:	Phase 1	**Date:**	6/19/2019
Analysis Year:		**Checked By:**	
Analysis Period:	**AM Street Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0	0	0
Retail				158	547	509
Restaurant				816	257	239
Cinema/Entertainment				0	0	0
Residential				0	0	0
Hotel				71	26	45
All Other Land Uses[2]				288	144	144
				1,333	974	937

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office	1.00	0%	0%	1.00	0%	0%
Retail	1.50	0%	0%	1.50	0%	0%
Restaurant	1.50	0%	0%	1.50	0%	0%
Cinema/Entertainment	1.00	0%	0%	1.00	0%	0%
Residential	1.00	0%	0%	1.00	0%	0%
Hotel	1.50	0%	0%	1.50	0%	0%
All Other Land Uses[2]	1.00	0%	0%	1.00	0%	0%

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		99	0	0	0
Restaurant	0	50		0	0	2
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	10	6	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	2,725	1,390	1,335
Internal Capture Percentage	12%	12%	13%
External Vehicle-Trips[5]	1,690	863	827
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	7%	13%
Restaurant	27%	14%
Cinema/Entertainment	N/A	N/A
Residential	N/A	N/A
Hotel	5%	24%

[1]Land Use Codes (LUCs) from *Trip Generation Manual* , published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Project Name:	Jackson Ranch
Analysis Period:	**AM Street Peak Hour**

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	0	0	1.00	0	0
Retail	1.50	547	821	1.50	509	764
Restaurant	1.50	257	386	1.50	239	359
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	0	0	1.00	0	0
Hotel	1.50	26	39	1.50	45	68

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	222		99	0	107	0
Restaurant	111	50		0	14	11
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	51	10	6	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		263	89	0	0	0
Retail	0		193	0	0	0
Restaurant	0	66		0	0	2
Cinema/Entertainment	0	0	0		0	0
Residential	0	140	77	0		0
Hotel	0	33	23	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	60	761	821	507	0	0
Restaurant	105	281	386	187	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	0	0	0	0	0
Hotel	2	37	39	25	0	0
All Other Land Uses[3]	0	144	144	144	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	99	665	764	443	0	0
Restaurant	52	307	359	205	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	0	0	0	0	0
Hotel	16	52	68	35	0	0
All Other Land Uses[3]	0	144	144	144	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Jackson Ranch	**Organization:**	PlaceWorks
Project Location:	Kings County	**Performed By:**	Fernando Sotelo
Scenario Description:	Phase 1	**Date:**	6/19/2019
Analysis Year:		**Checked By:**	
Analysis Period:	**PM Street Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0	0	0
Retail				847	421	426
Restaurant				419	228	191
Cinema/Entertainment				0	0	0
Residential				0	0	0
Hotel				71	38	33
All Other Land Uses[2]				247	131	116
				1,584	818	766

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office	1.00	0%	0%	1.00	0%	0%
Retail	1.50	0%	0%	1.50	0%	0%
Restaurant	1.50	0%	0%	1.50	0%	0%
Cinema/Entertainment	1.00	0%	0%	1.00	0%	0%
Residential	1.00	0%	0%	1.00	0%	0%
Hotel	1.50	0%	0%	1.50	0%	0%
All Other Land Uses[2]	1.00	0%	0%	1.00	0%	0%

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		100	100		100	
Retail					100	
Restaurant					100	
Cinema/Entertainment					100	
Residential		100	100			
Hotel					100	

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		99	0	0	10
Restaurant	0	118		0	0	20
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	8	17	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	2,254	1,162	1,092
Internal Capture Percentage	24%	23%	25%
External Vehicle-Trips[5]	1,222	637	585
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	20%	17%
Restaurant	34%	48%
Cinema/Entertainment	N/A	N/A
Residential	N/A	N/A
Hotel	53%	50%

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Project Name:	Jackson Ranch
Analysis Period:	**PM Street Peak Hour**

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	0	0	1.00	0	0
Retail	1.50	421	632	1.50	426	639
Restaurant	1.50	228	342	1.50	191	287
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	0	0	1.00	0	0
Hotel	1.50	38	57	1.50	33	50

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	13		185	26	166	32
Restaurant	9	118		23	52	20
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	8	34	0	1	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		51	7	0	0	0
Retail	0		99	0	0	10
Restaurant	0	316		0	0	40
Cinema/Entertainment	0	25	10		0	1
Residential	0	63	48	0		7
Hotel	0	13	17	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	126	506	632	337	0	0
Restaurant	116	226	342	151	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	0	0	0	0	0
Hotel	30	27	57	18	0	0
All Other Land Uses[3]	0	131	131	131	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	109	530	639	353	0	0
Restaurant	138	149	287	99	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	0	0	0	0	0
Hotel	25	25	50	17	0	0
All Other Land Uses[3]	0	116	116	116	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Jackson Ranch	**Organization:**	PlaceWorks
Project Location:	Kings County	**Performed By:**	Fernando Sotelo
Scenario Description:	Phase 2	**Date:**	6/19/2019
Analysis Year:		**Checked By:**	
Analysis Period:	**AM Street Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				330	290	40
Retail				158	547	509
Restaurant				816	257	239
Cinema/Entertainment				0	0	0
Residential				0	0	0
Hotel				71	26	45
All Other Land Uses[2]				437	259	178
				1,812	1,379	1,011

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office	1.00	0%	0%	1.00	0%	0%
Retail	1.50	0%	0%	1.50	0%	0%
Restaurant	1.50	0%	0%	1.50	0%	0%
Cinema/Entertainment	1.00	0%	0%	1.00	0%	0%
Residential	1.00	0%	0%	1.00	0%	0%
Hotel	1.50	0%	0%	1.50	0%	0%
All Other Land Uses[2]	1.00	0%	0%	1.00	0%	0%

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		11	25	0	0	0
Retail	12		99	0	0	0
Restaurant	41	50		0	0	2
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	9	10	6	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	3,204	1,795	1,409
Internal Capture Percentage	17%	15%	19%
External Vehicle-Trips[5]	2,006	1,183	823
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	21%	90%
Retail	9%	15%
Restaurant	34%	26%
Cinema/Entertainment	N/A	N/A
Residential	N/A	N/A
Hotel	5%	37%

[1]Land Use Codes (LUCs) from *Trip Generation Manual* , published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Project Name:	Jackson Ranch
Analysis Period:	**AM Street Peak Hour**

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	290	290	1.00	40	40
Retail	1.50	547	821	1.50	509	764
Restaurant	1.50	257	386	1.50	239	359
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	0	0	1.00	0	0
Hotel	1.50	26	39	1.50	45	68

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		11	25	0	0	0
Retail	222		99	0	107	0
Restaurant	111	50		0	14	11
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	51	10	6	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		263	89	0	0	0
Retail	12		193	0	0	0
Restaurant	41	66		0	0	2
Cinema/Entertainment	0	0	0		0	0
Residential	9	140	77	0		0
Hotel	9	33	23	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	62	228	290	228	0	0
Retail	71	750	821	500	0	0
Restaurant	130	256	386	171	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	0	0	0	0	0
Hotel	2	37	39	25	0	0
All Other Land Uses[3]	0	259	259	259	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	36	4	40	4	0	0
Retail	111	653	764	435	0	0
Restaurant	93	266	359	177	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	0	0	0	0	0
Hotel	25	43	68	29	0	0
All Other Land Uses[3]	0	178	178	178	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Jackson Ranch	**Organization:**	PlaceWorks
Project Location:	Kings County	**Performed By:**	Fernando Sotelo
Scenario Description:	Phase 2	**Date:**	6/19/2019
Analysis Year:		**Checked By:**	
Analysis Period:	**PM Street Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				297	39	258
Retail				847	421	426
Restaurant				419	228	191
Cinema/Entertainment				0	0	0
Residential				0	0	0
Hotel				71	38	33
All Other Land Uses[2]				433	183	250
				2,067	909	1,158

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office	1.00	0%	0%	1.00	0%	0%
Retail	1.50	0%	0%	1.50	0%	0%
Restaurant	1.50	0%	0%	1.50	0%	0%
Cinema/Entertainment	1.00	0%	0%	1.00	0%	0%
Residential	1.00	0%	0%	1.00	0%	0%
Hotel	1.50	0%	0%	1.50	0%	0%
All Other Land Uses[2]	1.00	0%	0%	1.00	0%	0%

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		100	100		100	
Retail					100	
Restaurant					100	
Cinema/Entertainment					100	
Residential		100	100			
Hotel					100	

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		51	7	0	0	0
Retail	12		99	0	0	10
Restaurant	9	118		0	0	20
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	8	17	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	2,737	1,253	1,484
Internal Capture Percentage	26%	28%	24%
External Vehicle-Trips[5]	1,573	668	905
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	54%	22%
Retail	28%	19%
Restaurant	36%	51%
Cinema/Entertainment	N/A	N/A
Residential	N/A	N/A
Hotel	53%	50%

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Project Name:	Jackson Ranch
Analysis Period:	**PM Street Peak Hour**

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	39	39	1.00	258	258
Retail	1.50	421	632	1.50	426	639
Restaurant	1.50	228	342	1.50	191	287
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	0	0	1.00	0	0
Hotel	1.50	38	57	1.50	33	50

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		52	10	0	5	0
Retail	13		185	26	166	32
Restaurant	9	118		23	52	20
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	8	34	0	1	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		51	7	0	0	0
Retail	12		99	0	0	10
Restaurant	12	316		0	0	40
Cinema/Entertainment	2	25	10		0	1
Residential	22	63	48	0		7
Hotel	0	13	17	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	21	18	39	18	0	0
Retail	177	455	632	303	0	0
Restaurant	123	219	342	146	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	0	0	0	0	0
Hotel	30	27	57	18	0	0
All Other Land Uses[3]	0	183	183	183	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	58	200	258	200	0	0
Retail	121	518	639	345	0	0
Restaurant	147	140	287	93	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	0	0	0	0	0
Hotel	25	25	50	17	0	0
All Other Land Uses[3]	0	250	250	250	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

Attachment E: Project Trip Distribution

Vistro File: S:\...\Existing_JacksonRanch.vistro
Report File: S:\...\New_Trips.pdf

Scenario: Base Scenario
6/27/2019

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound		Southbound		Eastbound			Total Volume
			Thru	Right	Left	Thru	Left	Thru	Right	
1	South Bound I-5 at SR-41 Ramps	Final Base	0	0	0	0	0	0	0	0
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	10	30	10	0	0	0	50
		Other	0	0	0	0	0	0	0	0
		Future Total	**0**	**10**	**30**	**10**	**0**	**0**	**0**	**50**

ID	Intersection Name	Volume Type	Northbound			Southbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	North Bound I-5 at SR-41 Ramps	Final Base	0	0	0	0	0	0	0	10	0	10
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	30	0	10	0	30	70
		Other	0	0	0	0	0	0	0	0	0	0
		Future Total	**0**	**0**	**0**	**0**	**30**	**0**	**10**	**10**	**30**	**80**

ID	Intersection Name	Volume Type	Northbound			Southbound		Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Left	Thru	Right	Left	Thru	Right	
3	Bernard Drive at SR-41	Final Base	0	0	0	0	0	0	0	0	0	0	0	0
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	30	0	0	30	0	0	0	0	0	0	60
		Other	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**0**	**30**	**0**	**0**	**30**	**0**	**0**	**0**	**0**	**0**	**0**	**60**

ID	Intersection Name	Volume Type	Northbound		Southbound		Westbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
4	25th Avenue at SR-41	Final Base	0	0	0	0	0	0	0
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	30	0	0	30	0	0	60
		Other	0	0	0	0	0	0	0
		Future Total	**30**	**0**	**0**	**30**	**0**	**0**	**60**

ID	Intersection Name	Volume Type	Northbound		Eastbound		Westbound		Total Volume
			Left	Right	Thru	Right	Left	Thru	
5	Utica Avenue at South Bound 25th Street	Final Base	0	0	0	0	0	0	0
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	100	0	0	100	0	200
		Other	0	0	0	0	0	0	0
		Future Total	**0**	**100**	**0**	**0**	**100**	**0**	**200**

ID	Intersection Name	Volume Type	Southbound			Eastbound		Westbound		Total Volume
			Left	Thru	Right	Thru	Right	Left	Thru	
6	Utica Avenue at South Bound I-5 Ramps	Final Base	0	0	0	0	0	0	0	0
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	0	70	80	20	0	30	200
		Other	0	0	0	0	0	0	0	0
		Future Total	**0**	**0**	**70**	**80**	**20**	**0**	**30**	**200**

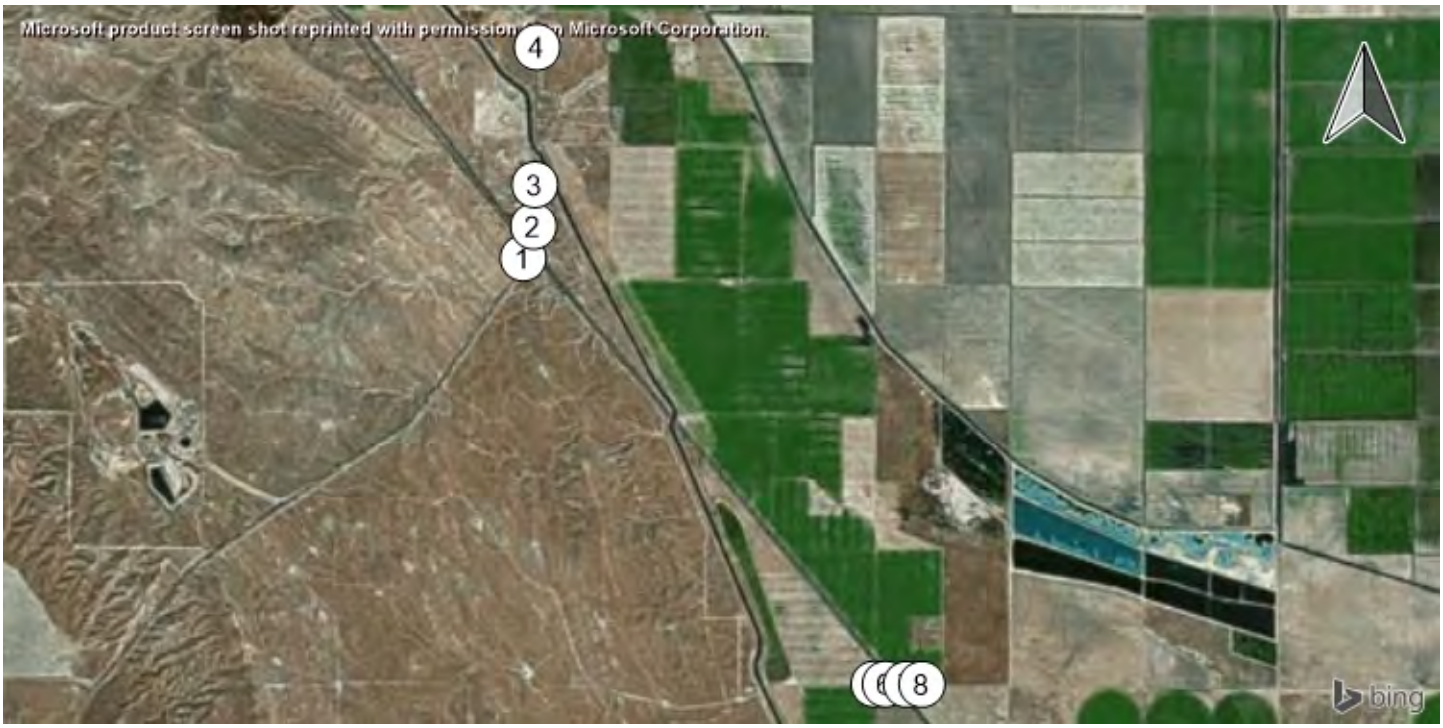
ID	Intersection Name	Volume Type	Northbound			Eastbound		Westbound		Total Volume
			Left	Thru	Right	Left	Thru	Thru	Right	
7	Utica Avenue at North Bound I-5 Ramps	Final Base	0	0	0	0	0	0	0	0
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	20	0	0	70	10	10	0	110
		Other	0	0	0	0	0	0	0	0
		Future Total	**20**	**0**	**0**	**70**	**10**	**10**	**0**	**110**

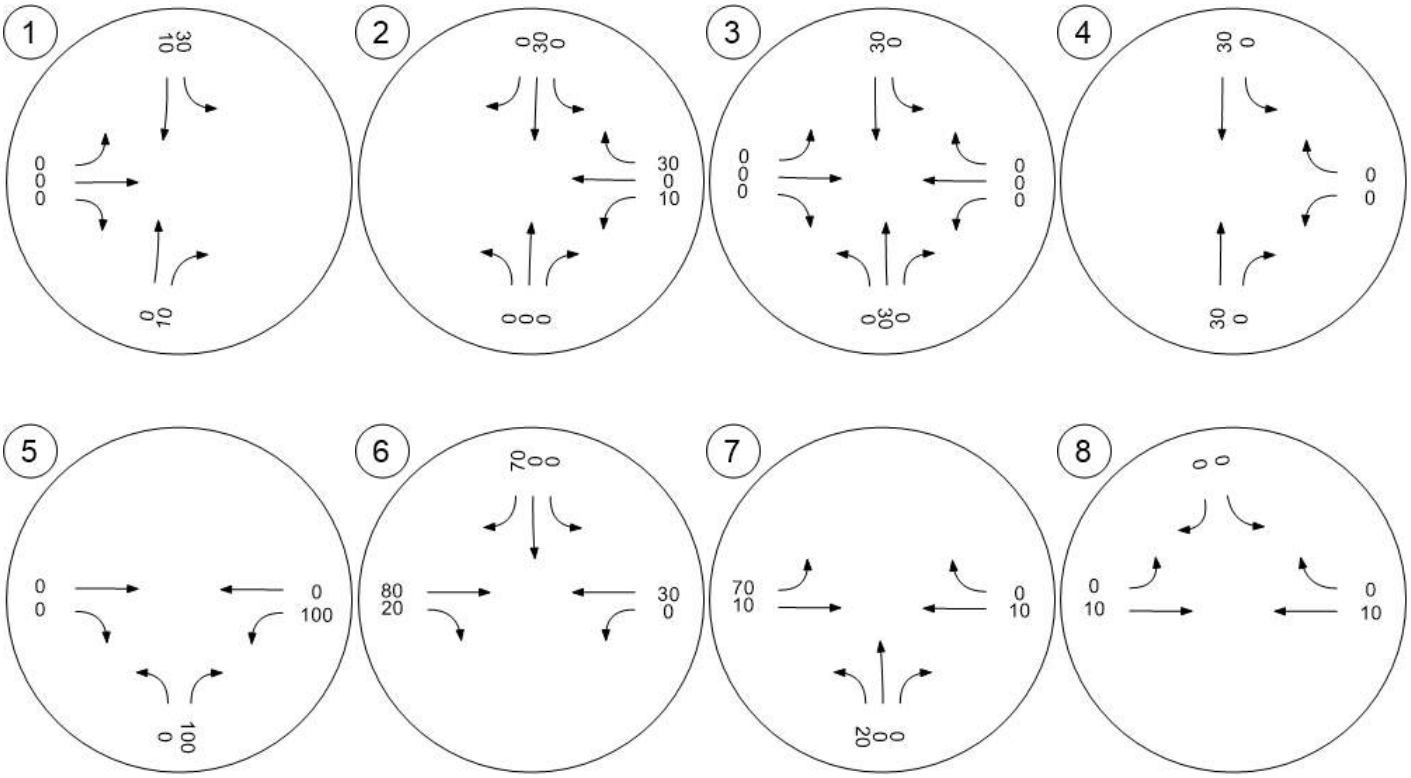
ID	Intersection Name	Volume Type	Southbound		Eastbound		Westbound		Total Volume
			Left	Right	Left	Thru	Thru	Right	
8	Utica Avenue at Frontage Road	Final Base	0	0	0	0	0	0	0
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	10	10	0	20
		Other	0	0	0	0	0	0	0
		Future Total	**0**	**0**	**0**	**10**	**10**	**0**	**20**

Study Intersections



Traffic Volume - Net New Site Trips





Vistro File: S:\...\Existing_JacksonRanch.vistro
Report File: S:\...\Passby_Trips.pdf

Scenario: Base Scenario
6/27/2019

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound		Southbound		Eastbound			Total Volume
			Thru	Right	Left	Thru	Left	Thru	Right	
1	South Bound I-5 at SR-41 Ramps	Final Base	0	0	0	0	0	0	0	0
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	5	15	5	0	0	0	25
		Other	0	0	0	0	0	0	0	0
		Future Total	**0**	**5**	**15**	**5**	**0**	**0**	**0**	**25**

ID	Intersection Name	Volume Type	Northbound			Southbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	North Bound I-5 at SR-41 Ramps	Final Base	0	0	0	0	0	0	0	10	0	10
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	15	0	5	0	15	35
		Other	0	0	0	0	0	0	0	0	0	0
		Future Total	**0**	**0**	**0**	**0**	**15**	**0**	**5**	**10**	**15**	**45**

ID	Intersection Name	Volume Type	Northbound			Southbound		Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Left	Thru	Right	Left	Thru	Right	
3	Bernard Drive at SR-41	Final Base	0	0	0	0	0	0	0	0	0	0	0	0
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	15	0	0	15	0	0	0	0	0	0	30
		Other	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**0**	**15**	**0**	**0**	**15**	**0**	**0**	**0**	**0**	**0**	**0**	**30**

ID	Intersection Name	Volume Type	Northbound		Southbound		Westbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
4	25th Avenue at SR-41	Final Base	0	0	0	0	0	0	0
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	15	0	0	15	0	0	30
		Other	0	0	0	0	0	0	0
		Future Total	**15**	**0**	**0**	**15**	**0**	**0**	**30**

ID	Intersection Name	Volume Type	Northbound		Eastbound		Westbound		Total Volume
			Left	Right	Thru	Right	Left	Thru	
5	Utica Avenue at South Bound 25th Street	Final Base	0	0	0	0	0	0	0
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	100	0	0	100	0	200
		Other	0	0	0	0	0	0	0
		Future Total	**0**	**100**	**0**	**0**	**100**	**0**	**200**

ID	Intersection Name	Volume Type	Southbound			Eastbound		Westbound		Total Volume
			Left	Thru	Right	Thru	Right	Left	Thru	
6	Utica Avenue at South Bound I-5 Ramps	Final Base	0	0	0	0	0	0	0	0
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	0	60	60	40	0	40	200
		Other	0	0	0	0	0	0	0	0
		Future Total	**0**	**0**	**60**	**60**	**40**	**0**	**40**	**200**

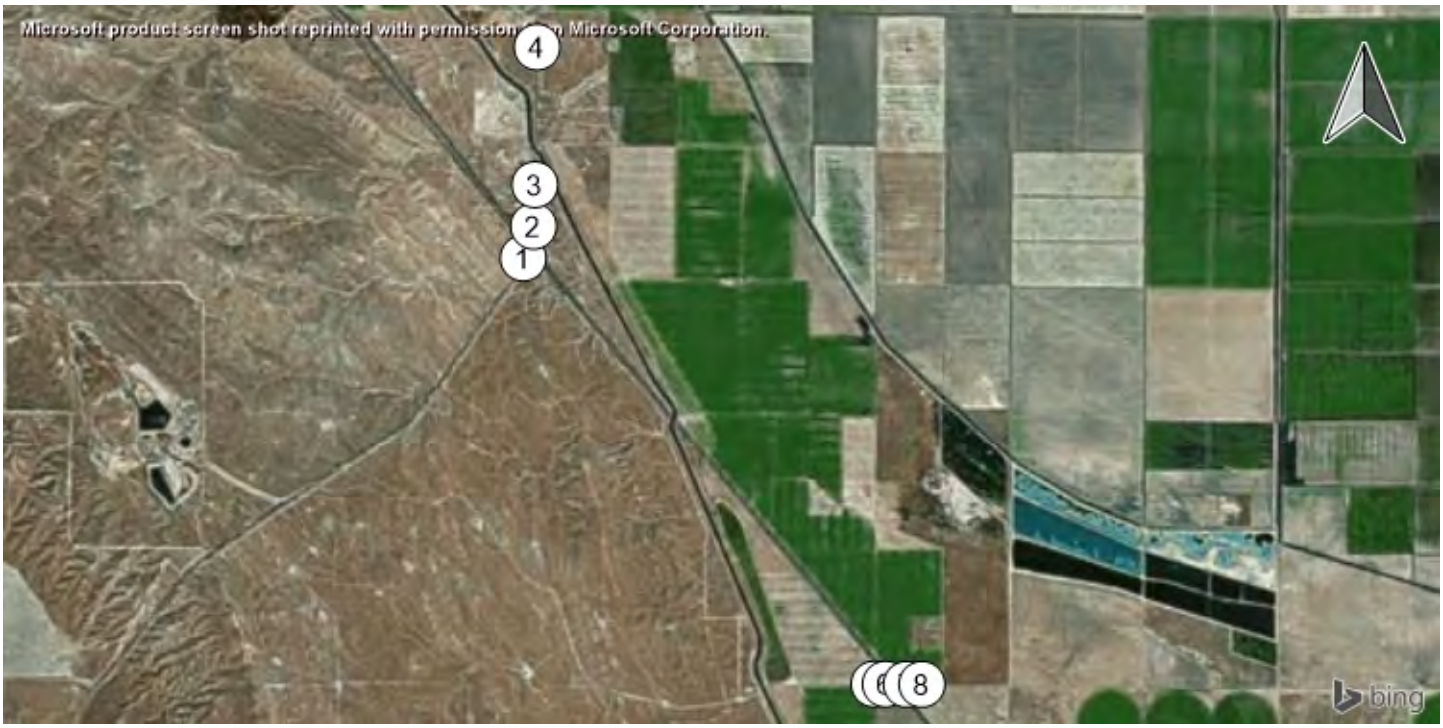
ID	Intersection Name	Volume Type	Northbound			Eastbound		Westbound		Total Volume
			Left	Thru	Right	Left	Thru	Thru	Right	
7	Utica Avenue at North Bound I-5 Ramps	Final Base	0	0	0	0	0	0	0	0
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	40	0	0	60	0	0	0	100
		Other	0	0	0	0	0	0	0	0
		Future Total	**40**	**0**	**0**	**60**	**0**	**0**	**0**	**100**

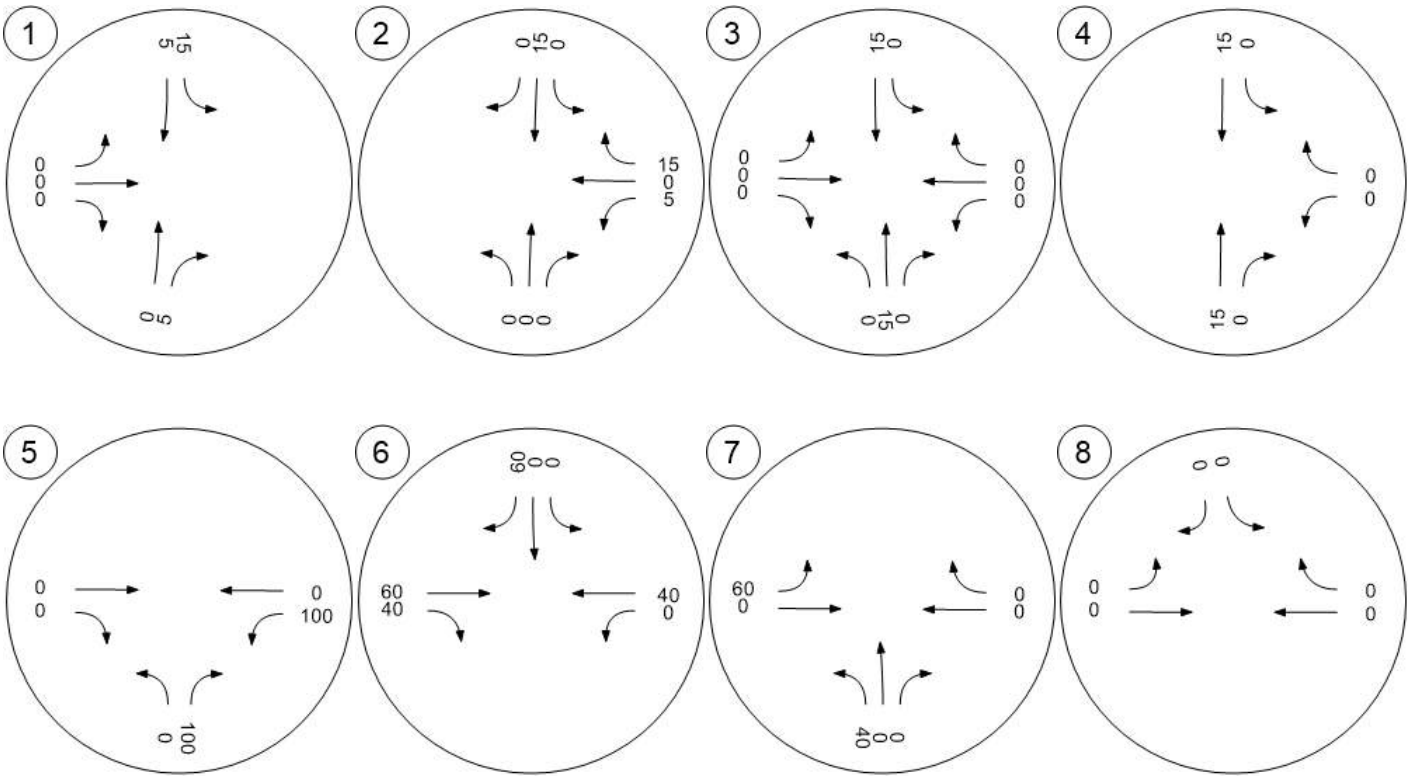
ID	Intersection Name	Volume Type	Southbound		Eastbound		Westbound		Total Volume
			Left	Right	Left	Thru	Thru	Right	
8	Utica Avenue at Frontage Road	Final Base	0	0	0	0	0	0	0
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Study Intersections



Traffic Volume - Net New Site Trips





Attachment F: Existing Traffic Counts

Prepared by National Data & Surveying Services

I-5 NB ramps & Utica Ave

Peak Hour Turning Movement Count

ID: 18-07319-002
City: Kettleman City

Day: Tuesday
Date: 09/18/2018

PEAK HOURS

AM	07:00 AM - 08:00 AM
NOON	NONE
PM	04:15 PM - 05:15 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	03:00 PM - 06:00 PM

SOUTHBOUND — I-5 NB ramps

AM	0	0	0	0	46	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	49	PM

EASTBOUND — Utica Ave

AM	NOON	PM		
7	0	38	⇦	
0	0	0	↶	0
29	0	12	↱	0
22	0	37	→	1
0	0	0	↷	0
AM	NOON	PM		

WESTBOUND — Utica Ave

PM	NOON	AM		
35	0	15	↶	1
36	0	5	←	1
0	0	0	↰	0
0	0	0	↩	0
38	0	25	⇨	
PM	NOON	AM		

NORTHBOUND — I-5 NB ramps

PM	0	0	2	2	1	PM
NOON	0	0	0	0	0	NOON
AM	0	0	2	2	3	AM

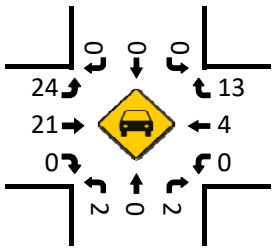
CONTROL

1-Way Stop (NB)

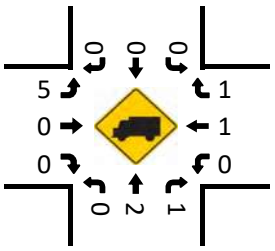
TEV	78 AM	0 NOON	125 PM
PHF	0.78		0.71

0 0 0 0 — 0 0 0.5 0.5

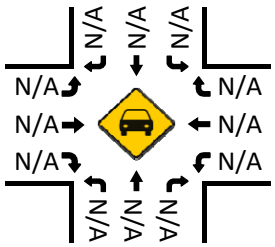
Cars (AM)



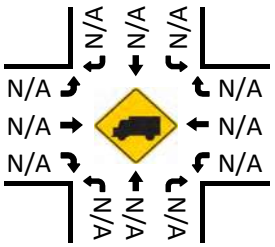
4axle (AM)



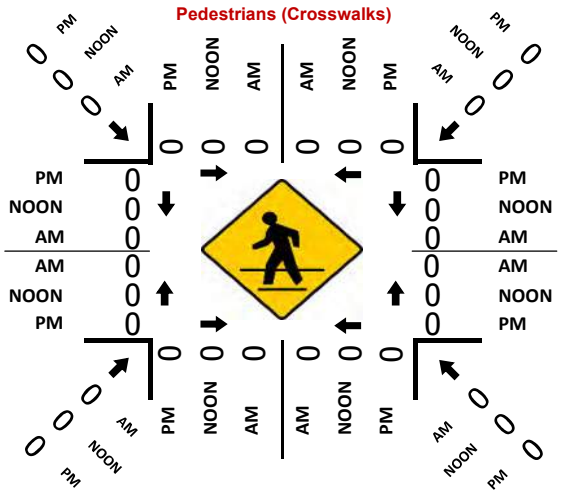
Cars (NOON)



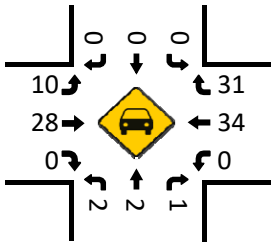
4axle (NOON)



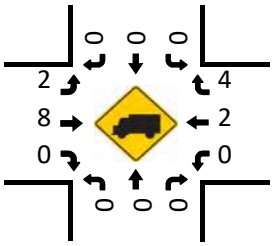
Pedestrians (Crosswalks)



Cars (PM)



4axle (PM)



Prepared by National Data & Surveying Services

I-5 SB ramps & Utica Ave

Peak Hour Turning Movement Count

ID: 18-07319-001
City: Kettleman City

Day: Tuesday
Date: 09/18/2018

PEAK HOURS	
AM	07:15 AM - 08:15 AM
NOON	NONE
PM	04:30 PM - 05:30 PM

COUNT PERIODS	
AM	07:00 AM - 09:00 AM
NOON	NONE
PM	03:00 PM - 06:00 PM

I-5 SB ramps (SOUTHBOUND)

AM	3	6	17	0	0	AM
NOON	0	0	0	0	0	NOON
PM	17	5	22	0	0	PM

Utica Ave (EASTBOUND)

AM	NOON	PM		
10	0	47	⇦	
0	0	0	↶	0
0	0	0	↱	0
27	0	28	→	1
8	0	3	↴	1
AM	NOON	PM		

Utica Ave (WESTBOUND)

0	↰	0	0	0
1	←	30	0	7
0	↰	7	0	0
0	↰	0	0	0
	⇨	50	0	44
		PM	NOON	AM

	↲	↓	↳	↱
	0.5	0.5	0	0

	↶	↰	↑	↱
	0	0	0	0

I-5 SB ramps (NORTHBOUND)

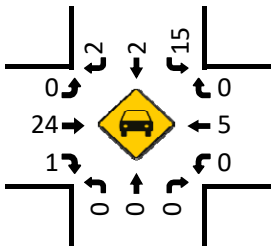
PM	15	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	14	0	0	0	0	AM

CONTROL

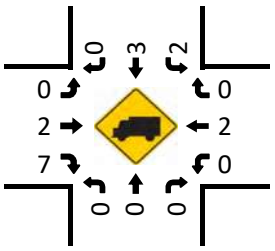
1-Way Stop (SB)

TEV	68 AM	0 NOON	112 PM
PHF	0.74		0.67

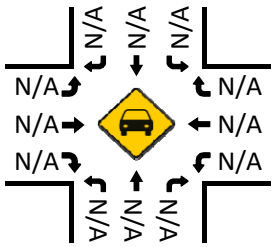
Cars (AM)



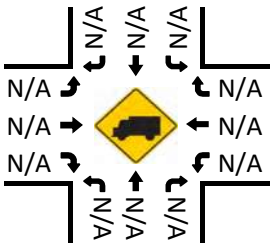
4axle (AM)



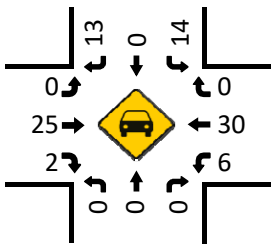
Cars (NOON)



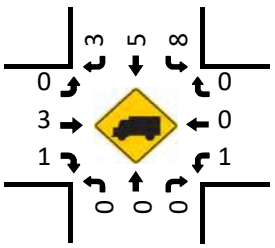
4axle (NOON)



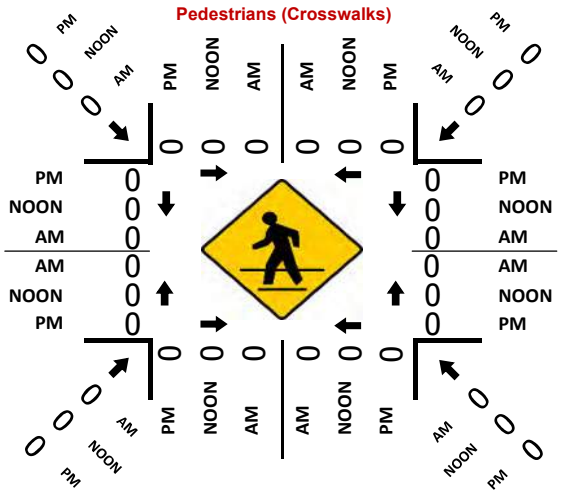
Cars (PM)



4axle (PM)



Pedestrians (Crosswalks)



DAILY TOTALS	NB	SB	EB	WB	To
	0	0	239	228	46

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOT
00:00	0	0	0		0				12:00	0	0	2		4		6
00:15	0	0	1		1		2		12:15	0	0	1		1		2
00:30	0	0	0		3		3		12:30	0	0	1		3		4
00:45	0	0	0	1	1	5	1	6	12:45	0	0	2	6	5	13	7
01:00	0	0	2		0		2		13:00	0	0	0		6		6
01:15	0	0	3		1		4		13:15	0	0	3		1		4
01:30	0	0	2		0		2		13:30	0	0	1		1		2
01:45	0	0	1	8	1	2	2	10	13:45	0	0	1	5	0	8	1
02:00	0	0	1		3		4		14:00	0	0	3		2		5
02:15	0	0	1		0		1		14:15	0	0	1		4		5
02:30	0	0	2		1		3		14:30	0	0	5		2		7
02:45	0	0	2	6	0	4	2	10	14:45	0	0	5	14	3	11	8
03:00	0	0	1		0		1		15:00	0	0	4		1		5
03:15	0	0	1		3		4		15:15	0	0	0		2		2
03:30	0	0	0		0				15:30	0	0	0		3		3
03:45	0	0	2	4	1	4	3	8	15:45	0	0	2	6	2	8	4
04:00	0	0	0		0				16:00	0	0	2		5		7
04:15	0	0	1		1		2		16:15	0	0	4		4		8
04:30	0	0	0		0				16:30	0	0	2		8		10
04:45	0	0	2	3	0	1	2	4	16:45	0	0	6	14	6	23	12
05:00	0	0	6		2		8		17:00	0	0	12		15		27
05:15	0	0	2		1		3		17:15	0	0	5		3		8
05:30	0	0	6		3		9		17:30	0	0	2		0		2
05:45	0	0	16	30	7	13	23	43	17:45	0	0	2	21	4	22	6
06:00	0	0	9		12		21		18:00	0	0	1		5		6
06:15	0	0	8		9		17		18:15	0	0	6		2		8
06:30	0	0	3		5		8		18:30	0	0	2		5		7
06:45	0	0	2	22	0	26	2	48	18:45	0	0	1	10	1	13	2
07:00	0	0	2		4		6		19:00	0	0	0		2		2
07:15	0	0	1		2		3		19:15	0	0	0		5		5
07:30	0	0	1		6		7		19:30	0	0	1		4		5
07:45	0	0	4	8	2	14	6	22	19:45	0	0	1	2	3	14	4
08:00	0	0	7		2		9		20:00	0	0	0		0		
08:15	0	0	5		0		5		20:15	0	0	1		0		1
08:30	0	0	2		1		3		20:30	0	0	0		0		
08:45	0	0	2	16	2	5	4	21	20:45	0	0	1	2	1	1	2
09:00	0	0	4		1		5		21:00	0	0	3		1		4
09:15	0	0	4		0		4		21:15	0	0	3		0		3
09:30	0	0	2		6		8		21:30	0	0	1		0		1
09:45	0	0	5	15	3	10	8	25	21:45	0	0	0	7	0	1	
10:00	0	0	4		1		5		22:00	0	0	0		0		
10:15	0	0	6		7		13		22:15	0	0	1		0		1
10:30	0	0	3		3		6		22:30	0	0	0		0		
10:45	0	0	5	18	4	15	9	33	22:45	0	0	0	1	0		
11:00	0	0	6		3		9		23:00	0	0	0		0		
11:15	0	0	7		1		8		23:15	0	0	0		1		1
11:30	0	0	0		2		2		23:30	0	0	0		4		4
11:45	0	0	6	19	0	6	6	25	23:45	0	0	1	1	4	9	5
TOTALS				150		105		255	TOTALS				89		123	
SPLIT %				58.8%		41.2%		54.6%	SPLIT %				42.0%		58.0%	

DAILY TOTALS	NB	SB	EB	WB	To
	0	0	239	228	46

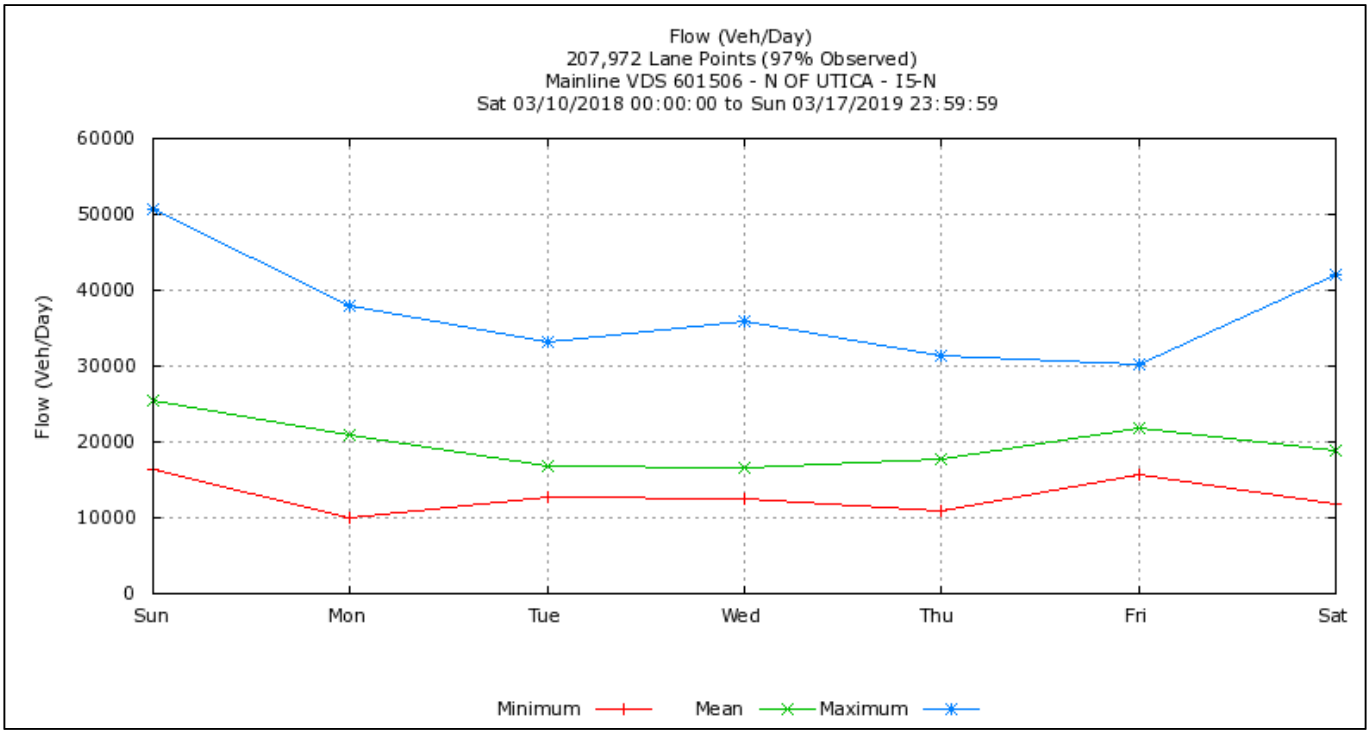
AM Peak Hour			05:30	05:45	05:30	PM Peak Hour	16:30	16:15
AM Pk Volume			39	33	70	PM Pk Volume	25	33
Pk Hr Factor			0.609	0.688	0.761	Pk Hr Factor	0.521	0.550
7 - 9 Volume	0	0	24	19	43	4 - 6 Volume	35	45
7 - 9 Peak Hour			07:45	07:00	07:30	4 - 6 Peak Hour	16:30	16:15
7 - 9 Pk Volume	0	0	18	14	27	4 - 6 Pk Volume	25	33
Pk Hr Factor	0.000	0.000	0.643	0.583	0.750	Pk Hr Factor	0.521	0.550

DAILY TOTALS	NB	SB	EB	WB	To
	0	0	700	243	94

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOT
00:00	0	0	1		2		3		12:00	0	0	5		2		7
00:15	0	0	1		1		2		12:15	0	0	9		0		9
00:30	0	0	1		3		4		12:30	0	0	7		3		10
00:45	0	0	3	6	1	7	4	13	12:45	0	0	9	30	7	12	16
01:00	0	0	0		0				13:00	0	0	10		2		12
01:15	0	0	0		1		1		13:15	0	0	5		2		7
01:30	0	0	0		0				13:30	0	0	10		1		11
01:45	0	0	0		1	2	1	2	13:45	0	0	8	33	2	7	10
02:00	0	0	1		2		3		14:00	0	0	9		2		11
02:15	0	0	0		0				14:15	0	0	10		4		14
02:30	0	0	2		2		4		14:30	0	0	16		3		19
02:45	0	0	0	3	1	5	1	8	14:45	0	0	7	42	3	12	10
03:00	0	0	1		1		2		15:00	0	0	13		1		14
03:15	0	0	1		2		3		15:15	0	0	8		4		12
03:30	0	0	0		1		1		15:30	0	0	9		2		11
03:45	0	0	1	3	1	5	2	8	15:45	0	0	18	48	3	10	21
04:00	0	0	2		0		2		16:00	0	0	16		4		20
04:15	0	0	1		0		1		16:15	0	0	10		3		13
04:30	0	0	4		1		5		16:30	0	0	8		8		16
04:45	0	0	4	11	0	1	4	12	16:45	0	0	15	49	9	24	24
05:00	0	0	13		1		14		17:00	0	0	17		16		33
05:15	0	0	9		4		13		17:15	0	0	12		3		15
05:30	0	0	7		7		14		17:30	0	0	3		2		5
05:45	0	0	29	58	5	17	34	75	17:45	0	0	22	54	1	22	23
06:00	0	0	8		15		23		18:00	0	0	4		4		8
06:15	0	0	8		10		18		18:15	0	0	5		4		9
06:30	0	0	8		7		15		18:30	0	0	8		7		15
06:45	0	0	7	31	1	33	8	64	18:45	0	0	9	26	1	16	10
07:00	0	0	15		2		17		19:00	0	0	4		1		5
07:15	0	0	18		2		20		19:15	0	0	18		3		21
07:30	0	0	13		0		13		19:30	0	0	17		3		20
07:45	0	0	6	52	2	6	8	58	19:45	0	0	11	50	1	8	12
08:00	0	0	6		3		9		20:00	0	0	5		0		5
08:15	0	0	7		1		8		20:15	0	0	4		2		6
08:30	0	0	9		1		10		20:30	0	0	0		1		1
08:45	0	0	10	32	3	8	13	40	20:45	0	0	1	10	1	4	2
09:00	0	0	10		0		10		21:00	0	0	4		2		6
09:15	0	0	6		1		7		21:15	0	0	9		0		9
09:30	0	0	11		7		18		21:30	0	0	1		1		2
09:45	0	0	9	36	2	10	11	46	21:45	0	0	4	18	0	3	4
10:00	0	0	5		3		8		22:00	0	0	4		0		4
10:15	0	0	16		3		19		22:15	0	0	3		1		4
10:30	0	0	9		5		14		22:30	0	0	1		0		1
10:45	0	0	9	39	4	15	13	54	22:45	0	0	3	11	0	1	3
11:00	0	0	17		2		19		23:00	0	0	0		1		1
11:15	0	0	16		1		17		23:15	0	0	1		0		1
11:30	0	0	12		3		15		23:30	0	0	1		2		3
11:45	0	0	10	55	1	7	11	62	23:45	0	0	1	3	5	8	6
TOTALS				326		116		442	TOTALS				374		127	
SPLIT %				73.8%		26.2%		46.9%	SPLIT %				74.7%		25.3%	

DAILY TOTALS	NB	SB	EB	WB	To
	0	0	700	243	94

AM Peak Hour			05:00	05:30	05:45	PM Peak Hour	17:00	16:15
AM Pk Volume			58	37	90	PM Pk Volume	54	36
Pk Hr Factor			0.500	0.617	0.662	Pk Hr Factor	0.614	0.563
7 - 9 Volume	0	0	84	14	98	4 - 6 Volume	0 0	103	46
7 - 9 Peak Hour			07:00	08:00	07:00	4 - 6 Peak Hour		17:00	16:15
7 - 9 Pk Volume	0	0	52	8	58	4 - 6 Pk Volume	0 0	54	36
Pk Hr Factor	0.000	0.000	0.722	0.667	0.725	Pk Hr Factor	0.000 0.000	0.614	0.563


Flow (Veh/Day)
207,972 Lane Points (97% Observed)
Mainline VDS 601506 - N OF UTICA - I5-N
Sat 03/10/2018 00:00:00 to Sun 03/17/2019 23:59:59
Flow (Veh/Day)
60000
50000
40000
30000
20000
10000
0
Sun
Mon
Tue
Wed
Thu
Fri
Sat
Minimum
Mean
Maximum

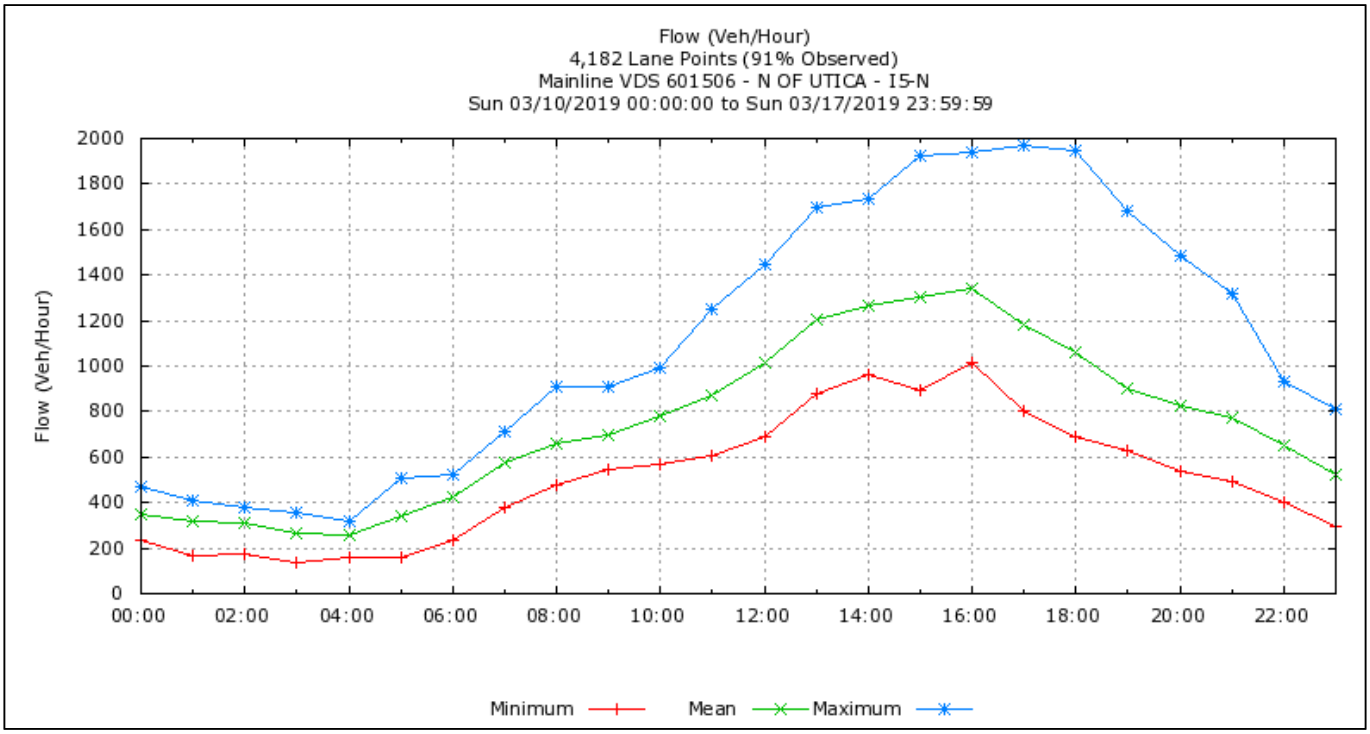
Day	Minimum	Mean	Maximum	# Lane Points	% Observed
Sun	16,457.0	25,550.5	50,774.0	31054	97.4
Mon	9,967.0	20,956.7	38,027.0	30528	98.2
Tue	12,821.0	16,722.3	33,242.0	30528	97.7
Wed	12,531.0	16,595.3	35,870.0	30528	96.5
Thu	11,001.0	17,815.7	31,288.0	30528	95.9
Fri	15,762.0	21,797.8	30,122.0	30526	96.6
Sat	11,755.0	18,913.7	41,968.0	31104	95.4

PeMS Report Description

Report	Aggregates>Day of Week
Report link	http://pems.dot.ca.gov/?report_form=1&dnode=VDS&content=loops&tab=det_dow&station_id=601506&s_time_id=1520640000&s_time_id_f=03%2F10%2F2018&e_time_id=1552867140&e_time_id_f=03%2F17%2F2019&tod=all&tod_from=0&tod_to=0&q=flow&fn=1&pct1=25&pct2=75
Report generated	03/19/2019 14:21
PeMS version	caltrans_pems-18.0.0

Report Parameters

Parameter	Value
Quantity	Flow
Data	214,796 Lane Points
Data Quality	96.8% Observed
Segment Type	VDS
Segment Name	Mainline VDS 601506 - N OF UTICA
start date	03/10/2018 00:00:00
end date	03/17/2019 23:59:59


Flow (Veh/Hour)
4,182 Lane Points (91% Observed)
Mainline VDS 601506 - N OF UTICA - I5-N
Sun 03/10/2019 00:00:00 to Sun 03/17/2019 23:59:59
Flow (Veh/Hour)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
00:00
02:00
04:00
06:00
08:00
10:00
12:00
14:00
16:00
18:00
20:00
22:00
Minimum
Mean
Maximum

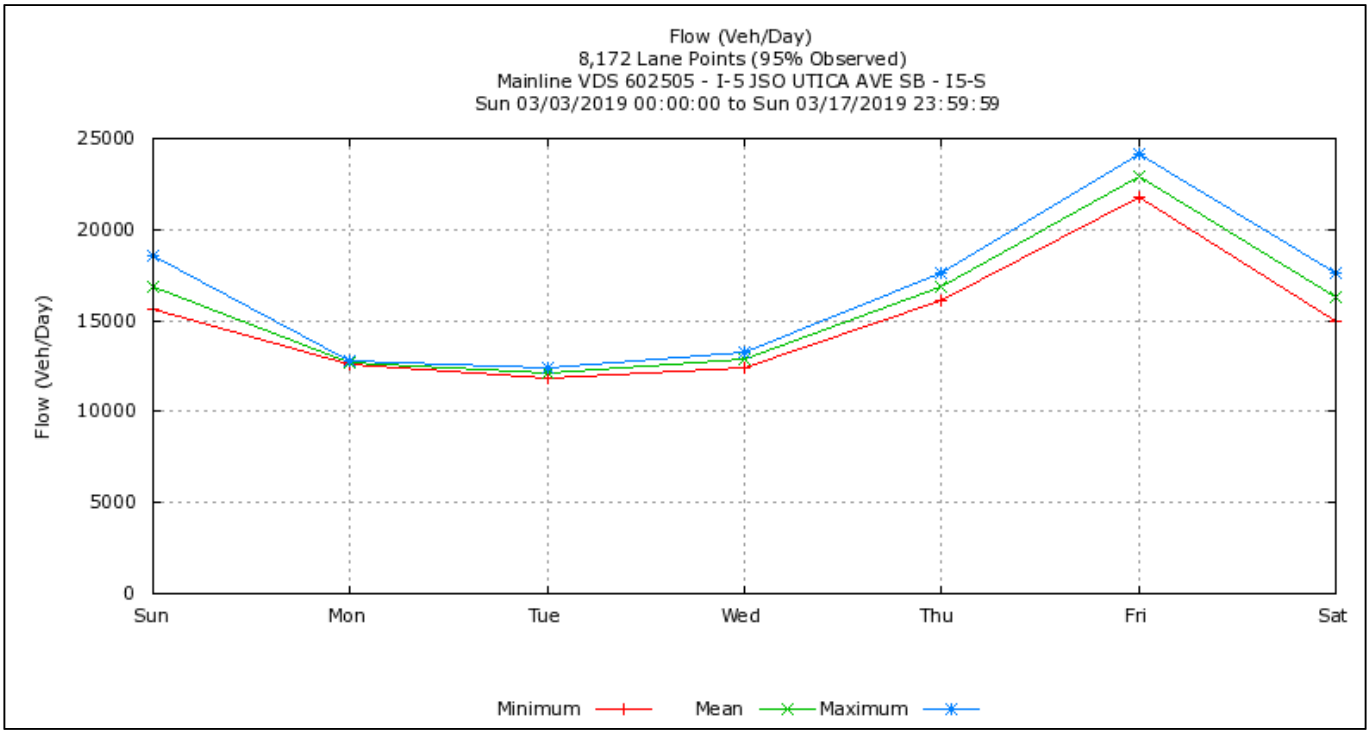
Time	Minimum	Mean	Maximum	# Lane Points	% Observed
00:00	233.00	345.75	469.00	192	70.8
01:00	169.00	321.50	411.00	192	82.3
02:00	173.00	311.43	382.00	168	77.4
03:00	137.00	268.00	356.00	192	81.3
04:00	160.00	256.38	321.00	192	90.6
05:00	162.00	340.63	510.00	192	87.5
06:00	235.00	420.50	526.00	192	82.3
07:00	382.00	572.75	712.00	192	82.3
08:00	480.00	655.75	909.00	192	93.8
09:00	549.00	693.38	908.00	192	91.7
10:00	566.00	779.00	995.00	192	93.8
11:00	605.00	873.38	1,252.00	192	100.0
12:00	689.00	1,018.63	1,445.00	192	100.0
13:00	877.00	1,208.00	1,694.00	192	100.0
14:00	964.00	1,268.63	1,736.00	192	100.0
15:00	895.00	1,300.13	1,922.00	192	100.0
16:00	1,016.00	1,340.63	1,937.00	192	100.0
17:00	805.00	1,184.25	1,969.00	192	100.0
18:00	692.00	1,061.25	1,944.00	192	100.0
19:00	632.00	903.50	1,681.00	192	100.0
20:00	538.00	826.00	1,485.00	192	100.0
21:00	490.00	771.50	1,319.00	192	91.7
22:00	402.00	654.13	935.00	192	80.2
23:00	298.00	524.38	808.00	192	82.3

PeMS Report Description

Report	Aggregates>Time of Day
Report link	http://pems.dot.ca.gov/?report_form=1&dnode=VDS&content=loops&tab=det_tod&station_id=601506&s_time_id=1552176000&s_time_id_f=03%2F10%2F2019&e_time_id=1552867140&e_time_id_f=03%2F17%2F2019&dow_0=on&dow_1=on&dow_2=on&dow_3=on&dow_4=on&dow_5=on&dow_6=on&holidays=on&q=flow&fn=1&pct1=25&pct2=75
Report generated	03/19/2019 14:22
PeMS version	caltrans_pems-18.0.0

Report Parameters

Parameter	Value
Quantity	Flow
Data	4,584 Lane Points
Data Quality	91.2% Observed
Segment Type	VDS
Segment Name	Mainline VDS 601506 - N OF UTICA
start date	03/10/2019 00:00:00
end date	03/17/2019 23:59:59


Flow (Veh/Day)
8,172 Lane Points (95% Observed)
Mainline VDS 602505 - I-5 JSO UTICA AVE SB - I5-S
Sun 03/03/2019 00:00:00 to Sun 03/17/2019 23:59:59
Flow (Veh/Day)
25000
20000
15000
10000
5000
0
Sun
Mon
Tue
Wed
Thu
Fri
Sat
Minimum
Mean
Maximum

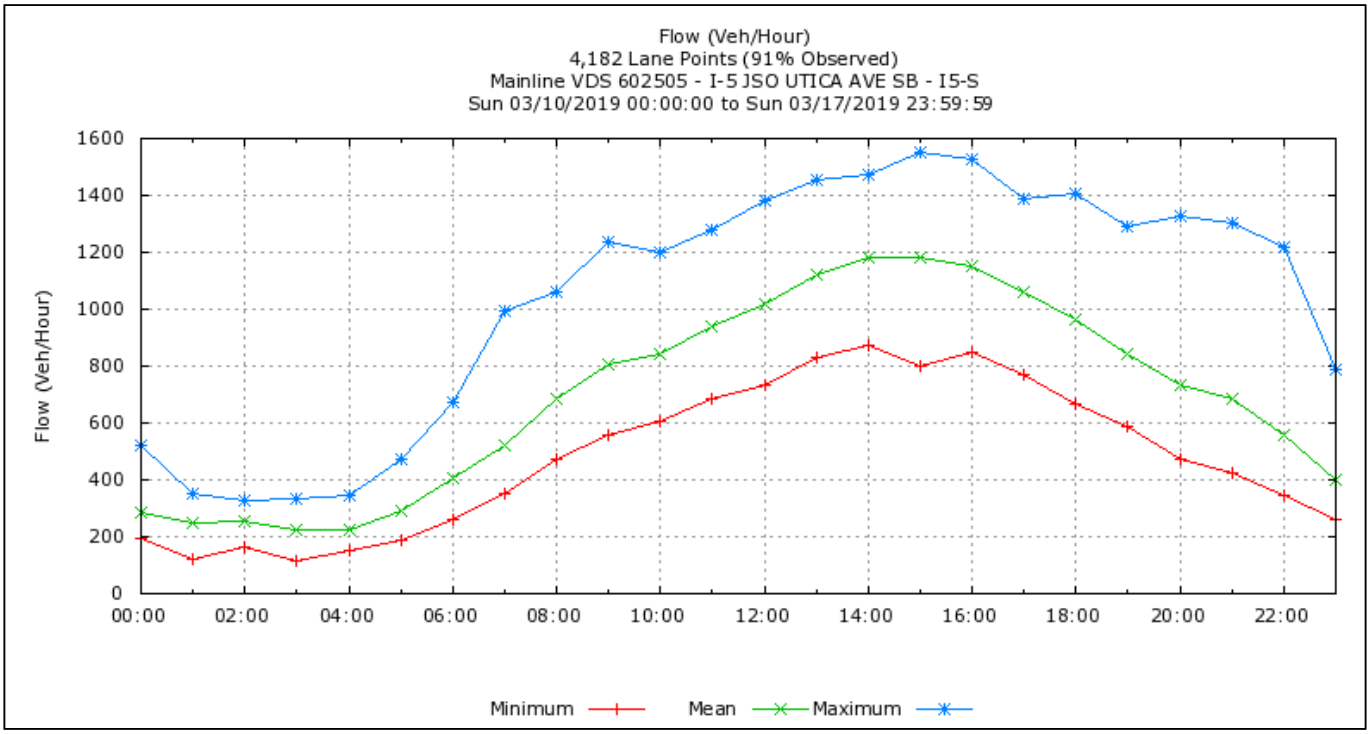
Day	Minimum	Mean	Maximum	# Lane Points	% Observed
Sun	15,643.0	16,843.7	18,570.0	1704	99.3
Mon	12,598.0	12,714.0	12,830.0	1152	99.0
Tue	11,790.0	12,101.5	12,413.0	1152	94.1
Wed	12,428.0	12,849.0	13,270.0	1152	83.3
Thu	16,125.0	16,855.0	17,585.0	1152	96.7
Fri	21,740.0	22,955.5	24,171.0	1152	89.9
Sat	14,922.0	16,244.5	17,567.0	1152	99.5

PeMS Report Description

Report	Aggregates>Day of Week
Report link	http://pems.dot.ca.gov/?report_form=1&dnode=VDS&content=loops&tab=det_dow&station_id=602505&s_time_id=1551571200&s_time_id_f=03%2F03%2F2019&e_time_id=1552867140&e_time_id_f=03%2F17%2F2019&tod=all&tod_from=0&tod_to=0&q=flow&fn=1&pct1=25&pct2=75
Report generated	03/19/2019 14:29
PeMS version	caltrans_pems-18.0.0

Report Parameters

Parameter	Value
Quantity	Flow
Data	8,616 Lane Points
Data Quality	94.8% Observed
Segment Type	VDS
Segment Name	Mainline VDS 602505 - I-5 JSO UTICA AVE SB
start date	03/03/2019 00:00:00
end date	03/17/2019 23:59:59


Flow (Veh/Hour)
4,182 Lane Points (91% Observed)
Mainline VDS 602505 - I-5 JSO UTICA AVE SB - I5-S
Sun 03/10/2019 00:00:00 to Sun 03/17/2019 23:59:59
Flow (Veh/Hour)
1600
1400
1200
1000
800
600
400
200
0
00:00
02:00
04:00
06:00
08:00
10:00
12:00
14:00
16:00
18:00
20:00
22:00
Minimum
Mean
Maximum

Time	Minimum	Mean	Maximum	# Lane Points	% Observed
00:00	193.00	285.75	522.00	192	70.8
01:00	123.00	246.25	351.00	192	82.3
02:00	163.00	255.29	327.00	168	77.4
03:00	117.00	222.13	334.00	192	81.3
04:00	151.00	223.50	343.00	192	90.6
05:00	185.00	291.88	472.00	192	87.5
06:00	260.00	404.63	675.00	192	82.3
07:00	351.00	522.00	996.00	192	82.3
08:00	471.00	684.13	1,058.00	192	93.8
09:00	559.00	805.38	1,236.00	192	91.7
10:00	607.00	844.13	1,197.00	192	93.8
11:00	686.00	940.63	1,279.00	192	100.0
12:00	733.00	1,018.63	1,383.00	192	100.0
13:00	833.00	1,118.25	1,453.00	192	100.0
14:00	873.00	1,184.50	1,474.00	192	100.0
15:00	803.00	1,180.63	1,551.00	192	100.0
16:00	848.00	1,152.38	1,527.00	192	100.0
17:00	768.00	1,061.50	1,388.00	192	100.0
18:00	667.00	961.75	1,408.00	192	100.0
19:00	588.00	839.88	1,290.00	192	100.0
20:00	471.00	734.25	1,329.00	192	100.0
21:00	422.00	684.50	1,306.00	192	91.7
22:00	348.00	560.00	1,218.00	192	80.2
23:00	258.00	400.50	787.00	192	82.3

PeMS Report Description

Report	Aggregates>Time of Day
Report link	http://pems.dot.ca.gov/?report_form=1&dnode=VDS&content=loops&tab=det_tod&station_id=602505&s_time_id=1552176000&s_time_id_f=03%2F10%2F2019&e_time_id=1552867140&e_time_id_f=03%2F17%2F2019&dow_0=on&dow_1=on&dow_2=on&dow_3=on&dow_4=on&dow_5=on&dow_6=on&holidays=on&q=flow&fn=1&pct1=25&pct2=75
Report generated	03/19/2019 14:26
PeMS version	caltrans_pems-18.0.0

Report Parameters

Parameter	Value
Quantity	Flow
Data	4,584 Lane Points
Data Quality	91.2% Observed
Segment Type	VDS
Segment Name	Mainline VDS 602505 - I-5 JSO UTICA AVE SB
start date	03/10/2019 00:00:00
end date	03/17/2019 23:59:59

APPENDIX B: TRAFFIC COUNTS

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR-41 & I-5 SB Ramps
City: Kettleman
Control: Signalized

Project ID: 19-07457-001
Date: 12/5/2019

Total

NS/EW Streets:	SR-41				SR-41				I-5 SB Ramps				I-5 SB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	0.5	0.5	0	2	2	0	0	1.3	0.3	0.3	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	21	1	0	13	32	0	0	13	0	8	0	0	0	0	0	88
7:15 AM	0	24	0	0	16	38	0	0	13	2	2	0	0	0	0	0	95
7:30 AM	0	29	4	0	16	41	0	0	10	0	2	0	0	0	0	0	102
7:45 AM	0	25	1	0	22	41	0	1	19	0	5	0	0	0	0	0	114
8:00 AM	0	27	0	0	17	27	0	1	18	0	6	0	0	0	0	0	96
8:15 AM	0	21	0	0	12	37	0	0	22	2	5	0	0	0	0	0	99
8:30 AM	0	22	0	0	21	30	0	0	15	0	6	0	0	0	0	0	94
8:45 AM	0	24	3	0	8	32	0	0	17	3	1	0	0	0	0	0	88
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	193	9	0	125	278	0	2	127	7	35	0	0	0	0	0	776
APPROACH %'s :	0.00%	95.54%	4.46%	0.00%	30.86%	68.64%	0.00%	0.49%	75.15%	4.14%	20.71%	0.00%					
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	102	5	0	67	146	0	2	69	2	18	0	0	0	0	0	411
PEAK HR FACTOR :	0.000	0.879	0.313	0.000	0.761	0.890	0.000	0.500	0.784	0.250	0.750	0.000	0.000	0.000	0.000	0.000	0.901
		0.811				0.840				0.767							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	0.5	0.5	0	2	2	0	0	1.3	0.3	0.3	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	54	8	0	21	45	0	0	20	4	7	0	0	0	0	0	159
4:15 PM	0	50	2	0	17	53	0	0	18	3	7	0	0	0	0	0	150
4:30 PM	0	52	3	0	26	30	0	0	18	1	8	0	0	0	0	0	138
4:45 PM	0	42	4	0	22	33	0	1	16	0	10	0	0	0	0	0	128
5:00 PM	0	51	0	0	17	30	0	2	17	0	7	0	0	0	0	0	124
5:15 PM	0	37	3	0	13	24	0	3	27	2	7	0	0	0	0	0	116
5:30 PM	0	32	5	0	15	32	0	3	22	2	12	0	0	0	0	0	123
5:45 PM	0	39	3	0	21	22	0	1	15	0	3	0	0	0	0	0	104
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	357	28	0	152	269	0	10	153	12	61	0	0	0	0	0	1042
APPROACH %'s :	0.00%	92.73%	7.27%	0.00%	35.27%	62.41%	0.00%	2.32%	67.70%	5.31%	26.99%	0.00%					
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	198	17	0	86	161	0	1	72	8	32	0	0	0	0	0	575
PEAK HR FACTOR :	0.000	0.917	0.531	0.000	0.827	0.759	0.000	0.250	0.900	0.500	0.800	0.000	0.000	0.000	0.000	0.000	0.904
		0.867				0.886				0.903							

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR-41 & I-5 SB Ramps
City: Kettleman
Control: Signalized

Project ID: 19-07457-001
Date: 12/5/2019

Cars

NS/EW Streets:	SR-41				SR-41				I-5 SB Ramps				I-5 SB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	0.5	0.5	0	2	2	0	0	1.3	0.3	0.3	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	19	1	0	9	26	0	0	9	0	4	0	0	0	0	0	68
7:15 AM	0	18	0	0	12	34	0	0	6	1	0	0	0	0	0	0	71
7:30 AM	0	26	3	0	9	37	0	0	8	0	1	0	0	0	0	0	84
7:45 AM	0	19	1	0	15	33	0	1	13	0	1	0	0	0	0	0	83
8:00 AM	0	25	0	0	15	20	0	1	10	0	0	0	0	0	0	0	71
8:15 AM	0	19	0	0	7	33	0	0	16	1	1	0	0	0	0	0	77
8:30 AM	0	21	0	0	16	24	0	0	10	0	2	0	0	0	0	0	73
8:45 AM	0	22	3	0	6	23	0	0	14	0	1	0	0	0	0	0	69
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	169	8	0	89	230	0	2	86	2	10	0	0	0	0	0	596
APPROACH %'s :	0.00%	95.48%	4.52%	0.00%	27.73%	71.65%	0.00%	0.62%	87.76%	2.04%	10.20%	0.00%					
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	89	4	0	46	123	0	2	47	1	3	0	0	0	0	0	315
PEAK HR FACTOR :	0.00	0.856	0.333	0.000	0.767	0.831	0.000	0.500	0.734	0.250	0.750	0.000	0.000	0.000	0.000	0.000	0.938
	0.802				0.872				0.708								

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	0.5	0.5	0	2	2	0	0	1.3	0.3	0.3	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	44	7	0	18	39	0	0	17	0	6	0	0	0	0	0	131
4:15 PM	0	47	0	0	14	50	0	0	14	1	7	0	0	0	0	0	133
4:30 PM	0	45	3	0	16	28	0	0	16	0	7	0	0	0	0	0	115
4:45 PM	0	37	2	0	17	33	0	1	13	0	8	0	0	0	0	0	111
5:00 PM	0	46	0	0	13	27	0	2	14	0	4	0	0	0	0	0	106
5:15 PM	0	31	2	0	9	23	0	3	26	1	5	0	0	0	0	0	100
5:30 PM	0	29	5	0	13	30	0	3	16	0	12	0	0	0	0	0	108
5:45 PM	0	37	3	0	16	18	0	1	14	0	3	0	0	0	0	0	92
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	316	22	0	116	248	0	10	130	2	52	0	0	0	0	0	896
APPROACH %'s :	0.00%	93.49%	6.51%	0.00%	31.02%	66.31%	0.00%	2.67%	70.65%	1.09%	28.26%	0.00%					
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	173	12	0	65	150	0	1	60	1	28	0	0	0	0	0	490
PEAK HR FACTOR :	0.00	0.920	0.429	0.000	0.903	0.750	0.000	0.250	0.882	0.250	0.875	0.000	0.000	0.000	0.000	0.000	0.921
	0.907				0.844				0.967								

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR-41 & I-5 SB Ramps
City: Kettleman
Control: Signalized

Project ID: 19-07457-001
Date: 12/5/2019

HT

NS/EW Streets:	SR-41				SR-41				I-5 SB Ramps				I-5 SB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	0.5	0.5	0	2	2	0	0	1.3	0.3	0.3	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	2	0	0	4	6	0	0	4	0	4	0	0	0	0	0	20
7:15 AM	0	6	0	0	4	4	0	0	7	1	2	0	0	0	0	0	24
7:30 AM	0	3	1	0	7	4	0	0	2	0	1	0	0	0	0	0	18
7:45 AM	0	6	0	0	7	8	0	0	6	0	4	0	0	0	0	0	31
8:00 AM	0	2	0	0	2	7	0	0	8	0	6	0	0	0	0	0	25
8:15 AM	0	2	0	0	5	4	0	0	6	1	4	0	0	0	0	0	22
8:30 AM	0	1	0	0	5	6	0	0	5	0	4	0	0	0	0	0	21
8:45 AM	0	2	0	0	2	9	0	0	3	3	0	0	0	0	0	0	19
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	24	1	0	36	48	0	0	41	5	25	0	0	0	0	0	180
APPROACH %'s :	0.00%	96.00%	4.00%	0.00%	42.86%	57.14%	0.00%	0.00%	57.75%	7.04%	35.21%	0.00%					
PEAK HR :	**07:30 AM - 08:30 AM**																TOTAL
PEAK HR VOL :	0	13	1	0	21	23	0	0	22	1	15	0	0	0	0	0	96
PEAK HR FACTOR :	0.000	0.542	0.250	0.000	0.750	0.719	0.000	0.000	0.688	0.250	0.625	0.000	0.000	0.000	0.000	0.000	0.774
		0.583				0.733				0.679							

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	0.5	0.5	0	2	2	0	0	1.3	0.3	0.3	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	10	1	0	3	6	0	0	3	4	1	0	0	0	0	0	28
4:15 PM	0	3	2	0	3	3	0	0	4	2	0	0	0	0	0	0	17
4:30 PM	0	7	0	0	10	2	0	0	2	1	1	0	0	0	0	0	23
4:45 PM	0	5	2	0	5	0	0	0	3	0	2	0	0	0	0	0	17
5:00 PM	0	5	0	0	4	3	0	0	3	0	3	0	0	0	0	0	18
5:15 PM	0	6	1	0	4	1	0	0	1	1	2	0	0	0	0	0	16
5:30 PM	0	3	0	0	2	2	0	0	6	2	0	0	0	0	0	0	15
5:45 PM	0	2	0	0	5	4	0	0	1	0	0	0	0	0	0	0	12
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	41	6	0	36	21	0	0	23	10	9	0	0	0	0	0	146
APPROACH %'s :	0.00%	87.23%	12.77%	0.00%	63.16%	36.84%	0.00%	0.00%	54.76%	23.81%	21.43%	0.00%					
PEAK HR :	**04:00 PM - 05:00 PM**																TOTAL
PEAK HR VOL :	0	25	5	0	21	11	0	0	12	7	4	0	0	0	0	0	85
PEAK HR FACTOR :	0.00	0.625	0.625	0.000	0.525	0.458	0.000	0.000	0.750	0.438	0.500	0.000	0.000	0.000	0.000	0.000	0.759
		0.682				0.667				0.719							

Prepared by National Data & Surveying Services

SR-41 & I-5 SB Ramps

Peak Hour Turning Movement Count

ID: 19-07457-001
City: Kettleman

Day: Thursday
Date: 12/05/2019

PEAK HOURS		COUNT PERIODS
AM	07:30 AM - 08:30 AM	07:00 AM - 09:00 AM
NOON	NONE	NONE
PM	04:00 PM - 05:00 PM	04:00 PM - 06:00 PM

SR-41 SOUTHBOUND

	Right	Through	Left	U-Turn	Departing
AM	0	146	67	2	173
NOON	0	0	0	0	0
PM	0	161	86	1	271
HT %	0	2	2	0	

I-5 SB Ramps WESTBOUND

	PM	NOON	AM	HT %
Right	0	0	0	0
Through	0	0	0	0
Left	0	0	0	0
U-Turn	0	0	0	0
Departing	111	0	74	

I-5 SB Ramps EASTBOUND

	AM	NOON	PM	HT %
Departing	0	0	0	
U-Turn	0	0	0	0
Left	69	0	72	1.3
Through	2	0	8	0.3
Right	18	0	32	0.3

SR-41 NORTHBOUND

	Departing	U-Turn	Left	Through	Right
HT %		0	1	0.5	0.5
PM	193	0	0	198	17
NOON	0	0	0	0	0
AM	164	0	0	102	5

CONTROL

Signalized

	AM	NOON	PM
TEV	411	0	575
PHF	0.90		0.90

Cars and HT

	SB Right	SB Through	SB Left	EB Left	EB Through	EB Right	WB Right	WB Through	WB Left	NB Left	NB Through	NB Right
Cars (AM)	0	123	46	47	1	3	0	0	0	0	89	4
Cars (NOON)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cars (PM)	0	150	65	60	1	28	0	0	0	0	173	12
HT (AM)	0	23	21	22	1	15	0	0	0	0	13	1
HT (NOON)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HT (PM)	0	11	21	12	7	4	0	0	0	0	25	5

Pedestrians (Crosswalks)

	AM	NOON	PM
North crosswalk	0	0	0
South crosswalk	0	0	0
East crosswalk	0	0	0
West crosswalk	0	0	0
Diagonals	0	0	0

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR-41 & I-5 NB Ramps
City: Kettleman
Control: 1-Way Stop (WB)

Project ID: 19-07457-002
Date: 12/5/2019

Total

NS/EW Streets:	SR-41				SR-41				I-5 NB Ramps				I-5 NB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	1.5	0.5	0	0	0	0	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	4	29	0	0	0	44	19	1	0	0	0	0	3	0	19	0	119
7:15 AM	6	32	0	0	0	50	16	0	0	0	0	0	2	0	14	0	120
7:30 AM	7	33	0	0	0	48	20	0	0	0	0	0	8	0	24	0	140
7:45 AM	6	38	0	0	0	59	16	0	0	0	0	0	6	1	20	0	146
8:00 AM	5	39	0	0	0	38	14	0	0	0	0	0	8	1	23	0	128
8:15 AM	6	39	0	0	0	41	13	0	0	0	0	0	5	0	18	0	122
8:30 AM	3	33	0	0	0	51	25	0	0	0	0	0	3	1	23	0	139
8:45 AM	3	38	0	1	0	38	20	0	0	0	0	0	4	1	16	0	121
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	40	281	0	1	0	369	143	1	0	0	0	0	39	4	157	0	1035
APPROACH %'s :	12.42%	87.27%	0.00%	0.31%	0.00%	71.93%	27.88%	0.19%					19.50%	2.00%	78.50%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	24	149	0	0	0	186	63	0	0	0	0	0	27	2	85	0	536
PEAK HR FACTOR :	0.857	0.955	0.000	0.000	0.000	0.788	0.788	0.000	0.000	0.000	0.000	0.000	0.844	0.500	0.885	0.000	0.918
	0.961				0.830								0.891				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	1.5	0.5	0	0	0	0	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	3	70	0	0	0	73	27	0	0	0	0	0	1	0	31	0	205
4:15 PM	9	58	0	0	0	64	28	0	0	0	0	0	0	0	31	0	190
4:30 PM	10	61	0	0	0	62	18	0	0	0	0	0	0	0	21	0	172
4:45 PM	3	57	0	0	0	45	24	0	0	0	0	0	3	0	19	0	151
5:00 PM	3	67	0	0	0	48	15	0	0	0	0	0	1	0	27	0	161
5:15 PM	8	59	0	0	0	39	17	0	0	0	0	0	1	0	20	0	144
5:30 PM	5	52	0	0	0	49	16	0	0	0	0	0	2	0	19	0	143
5:45 PM	3	52	0	0	0	42	13	0	0	0	0	0	1	0	24	0	135
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	44	476	0	0	0	422	158	0	0	0	0	0	9	0	192	0	1301
APPROACH %'s :	8.46%	91.54%	0.00%	0.00%	0.00%	72.76%	27.24%	0.00%					4.48%	0.00%	95.52%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	25	246	0	0	0	244	97	0	0	0	0	0	4	0	102	0	718
PEAK HR FACTOR :	0.625	0.879	0.000	0.000	0.000	0.836	0.866	0.000	0.000	0.000	0.000	0.000	0.333	0.000	0.823	0.000	0.876
	0.928				0.853								0.828				

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR-41 & I-5 NB Ramps
City: Kettleman
Control: 1-Way Stop (WB)

Project ID: 19-07457-002
Date: 12/5/2019

Cars

NS/EW Streets:	SR-41				SR-41				I-5 NB Ramps				I-5 NB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	1.5	0.5	0	0	0	0	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	2	25	0	0	0	34	16	1	0	0	0	0	3	0	13	0	94
7:15 AM	3	22	0	0	0	42	10	0	0	0	0	0	2	0	10	0	89
7:30 AM	4	30	0	0	0	36	14	0	0	0	0	0	8	0	14	0	106
7:45 AM	3	30	0	0	0	46	12	0	0	0	0	0	5	0	13	0	109
8:00 AM	5	30	0	0	0	31	12	0	0	0	0	0	5	0	14	0	97
8:15 AM	4	32	0	0	0	33	7	0	0	0	0	0	5	0	8	0	89
8:30 AM	2	29	0	0	0	40	14	0	0	0	0	0	2	0	18	0	105
8:45 AM	1	34	0	1	0	28	15	0	0	0	0	0	4	0	8	0	91
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	24	232	0	1	0	290	100	1	0	0	0	0	34	0	98	0	780
APPROACH %'s :	9.34%	90.27%	0.00%	0.39%	0.00%	74.17%	25.58%	0.26%					25.76%	0.00%	74.24%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	16	122	0	0	0	146	45	0	0	0	0	0	23	0	49	0	401
PEAK HR FACTOR :	0.80	0.953	0.000	0.000	0.000	0.793	0.804	0.000	0.000	0.000	0.000	0.000	0.719	0.000	0.875	0.000	0.920
	0.958				0.823								0.818				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	1.5	0.5	0	0	0	0	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	2	58	0	0	0	64	24	0	0	0	0	0	1	0	24	0	173
4:15 PM	9	53	0	0	0	57	24	0	0	0	0	0	0	0	23	0	166
4:30 PM	7	53	0	0	0	51	14	0	0	0	0	0	0	0	18	0	143
4:45 PM	3	49	0	0	0	41	19	0	0	0	0	0	3	0	17	0	132
5:00 PM	3	59	0	0	0	38	15	0	0	0	0	0	1	0	26	0	142
5:15 PM	7	52	0	0	0	36	14	0	0	0	0	0	1	0	16	0	126
5:30 PM	4	45	0	0	0	46	15	0	0	0	0	0	2	0	13	0	125
5:45 PM	3	49	0	0	0	32	12	0	0	0	0	0	1	0	22	0	119
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	38	418	0	0	0	365	137	0	0	0	0	0	9	0	159	0	1126
APPROACH %'s :	8.33%	91.67%	0.00%	0.00%	0.00%	72.71%	27.29%	0.00%					5.36%	0.00%	94.64%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	21	213	0	0	0	213	81	0	0	0	0	0	4	0	82	0	614
PEAK HR FACTOR :	0.58	0.918	0.000	0.000	0.000	0.832	0.844	0.000	0.000	0.000	0.000	0.000	0.333	0.000	0.854	0.000	0.887
	0.944				0.835								0.860				

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR-41 & I-5 NB Ramps
City: Kettleman
Control: 1-Way Stop (WB)

Project ID: 19-07457-002
Date: 12/5/2019

HT

NS/EW Streets:	SR-41				SR-41				I-5 NB Ramps				I-5 NB Ramps				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	1.5	0.5	0	0	0	0	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	2	4	0	0	0	10	3	0	0	0	0	0	0	0	6	0	25
7:15 AM	3	10	0	0	0	8	6	0	0	0	0	0	0	0	4	0	31
7:30 AM	3	3	0	0	0	12	6	0	0	0	0	0	0	0	10	0	34
7:45 AM	3	8	0	0	0	13	4	0	0	0	0	0	1	1	7	0	37
8:00 AM	0	9	0	0	0	7	2	0	0	0	0	0	3	1	9	0	31
8:15 AM	2	7	0	0	0	8	6	0	0	0	0	0	0	0	10	0	33
8:30 AM	1	4	0	0	0	11	11	0	0	0	0	0	1	1	5	0	34
8:45 AM	2	4	0	0	0	10	5	0	0	0	0	0	0	1	8	0	30
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	16	49	0	0	0	79	43	0	0	0	0	0	5	4	59	0	255
APPROACH %'s :	24.62%	75.38%	0.00%	0.00%	0.00%	64.75%	35.25%	0.00%					7.35%	5.88%	86.76%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	8	27	0	0	0	40	18	0	0	0	0	0	4	2	36	0	135
PEAK HR FACTOR :	0.667	0.750	0.000	0.000	0.000	0.769	0.750	0.000	0.000	0.000	0.000	0.000	0.333	0.500	0.900	0.000	0.912
	0.795				0.806								0.808				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	1.5	0.5	0	0	0	0	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	1	12	0	0	0	9	3	0	0	0	0	0	0	0	7	0	32
4:15 PM	0	5	0	0	0	7	4	0	0	0	0	0	0	0	8	0	24
4:30 PM	3	8	0	0	0	11	4	0	0	0	0	0	0	0	3	0	29
4:45 PM	0	8	0	0	0	4	5	0	0	0	0	0	0	0	2	0	19
5:00 PM	0	8	0	0	0	10	0	0	0	0	0	0	0	0	1	0	19
5:15 PM	1	7	0	0	0	3	3	0	0	0	0	0	0	0	4	0	18
5:30 PM	1	7	0	0	0	3	1	0	0	0	0	0	0	0	6	0	18
5:45 PM	0	3	0	0	0	10	1	0	0	0	0	0	0	0	2	0	16
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	6	58	0	0	0	57	21	0	0	0	0	0	0	0	33	0	175
APPROACH %'s :	9.38%	90.63%	0.00%	0.00%	0.00%	73.08%	26.92%	0.00%					0.00%	0.00%	100.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	4	33	0	0	0	31	16	0	0	0	0	0	0	0	20	0	104
PEAK HR FACTOR :	0.33	0.688	0.000	0.000	0.000	0.705	0.800	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.813
	0.712				0.783								0.625				

Prepared by National Data & Surveying Services

SR-41 & I-5 NB Ramps

Peak Hour Turning Movement Count

ID: 19-07457-002
City: Kettleman

Day: Thursday
Date: 12/05/2019

PEAK HOURS

AM	07:30 AM - 08:30 AM
NOON	NONE
PM	04:00 PM - 05:00 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

SR-41 SOUTHBOUND

AM	63	186	0	0	234	AM
NOON	0	0	0	0	0	NOON
PM	97	244	0	0	348	PM
	0.5	1.5	0	0		

I-5 NB Ramps EASTBOUND

AM	NOON	PM	
89	0	122	⇦
0	0	0	↶ 0
0	0	0	↱ 0
0	0	0	→ 0
0	0	0	↴ 0
AM	NOON	PM	

CONTROL

1-Way Stop (WB)

TEV	536 AM	0 NOON	718 PM
PHF	0.92		0.88

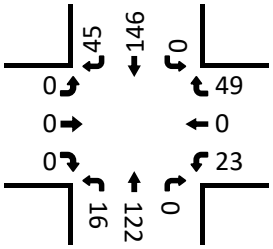
WESTBOUND I-5 NB Ramps

PM	NOON	AM	
102	0	85	1 ↰
0	0	2	1 ←
4	0	27	0 ↶
0	0	0	0 ↩
0	0	0	⇨
PM	NOON	AM	

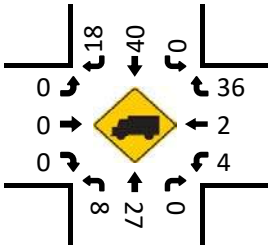
SR-41 NORTHBOUND

	0	1	2	0		
PM	248	0	25	246	0	PM
NOON	0	0	0	0	0	NOON
AM	213	0	24	149	0	AM

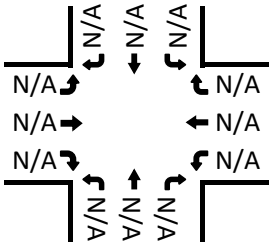
Cars (AM)



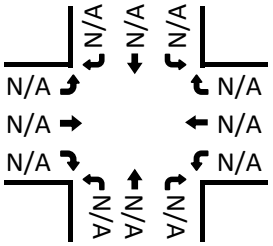
HT (AM)



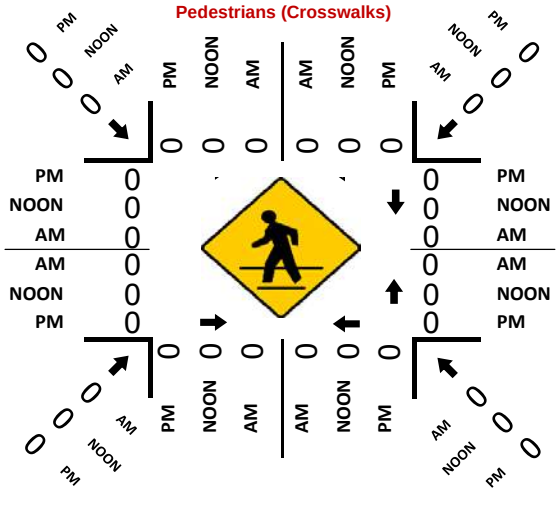
Cars (NOON)



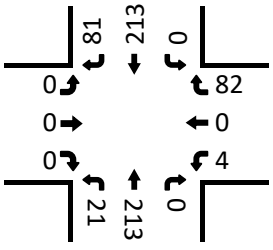
HT (NOON)



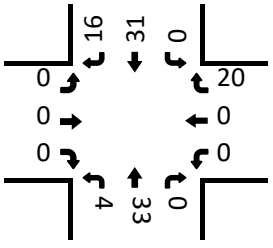
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: SR-41 & Bernard Dr
City: Kettleman
Control: Signalized

Project ID: 19-07457-003
Date: 12/5/2019

Total

NS/EW Streets:	SR-41				SR-41				Bernard Dr				Bernard Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	5	26	10	11	7	43	6	0	1	2	5	0	9	2	3	0	130
7:15 AM	3	32	1	4	4	35	3	0	0	3	11	0	12	0	6	0	114
7:30 AM	7	35	4	6	6	41	2	0	2	0	8	1	12	1	0	0	125
7:45 AM	7	33	5	13	11	44	1	0	1	1	9	0	10	0	5	0	140
8:00 AM	14	32	6	7	10	28	2	0	1	2	6	0	11	1	3	0	123
8:15 AM	7	25	4	8	9	27	3	0	3	5	9	0	10	3	6	0	119
8:30 AM	11	25	6	11	13	33	2	0	0	2	14	0	18	1	4	0	140
8:45 AM	9	26	8	6	2	27	1	0	0	3	13	0	13	1	5	0	114
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	63	234	44	66	62	278	20	0	8	18	75	1	95	9	32	0	1005
APPROACH %'s :	15.48%	57.49%	10.81%	16.22%	17.22%	77.22%	5.56%	0.00%	7.84%	17.65%	73.53%	0.98%	69.85%	6.62%	23.53%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	39	115	21	39	43	132	8	0	5	10	38	0	49	5	18	0	522
PEAK HR FACTOR :	0.696	0.871	0.875	0.750	0.827	0.750	0.667	0.000	0.417	0.500	0.679	0.000	0.681	0.417	0.750	0.000	0.932
	0.907				0.817				0.779				0.783				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	7	63	12	18	10	49	1	0	2	3	11	0	21	1	9	0	207
4:15 PM	7	51	6	18	9	46	2	0	2	2	11	0	20	4	6	0	184
4:30 PM	6	53	6	13	17	30	2	0	2	0	9	0	24	1	7	0	170
4:45 PM	7	47	2	14	4	33	3	0	2	5	5	0	15	0	7	0	144
5:00 PM	9	55	10	10	10	27	3	0	1	3	10	0	19	1	10	0	168
5:15 PM	13	50	10	14	10	24	1	0	2	2	9	0	12	0	8	0	155
5:30 PM	6	42	9	18	10	29	0	0	3	1	3	0	12	2	9	0	144
5:45 PM	12	44	6	6	11	36	4	0	2	0	4	0	15	3	6	0	149
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	67	405	61	111	81	274	16	0	16	16	62	0	138	12	62	0	1321
APPROACH %'s :	10.40%	62.89%	9.47%	17.24%	21.83%	73.85%	4.31%	0.00%	17.02%	17.02%	65.96%	0.00%	65.09%	5.66%	29.25%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	27	214	26	63	40	158	8	0	8	10	36	0	80	6	29	0	705
PEAK HR FACTOR :	0.964	0.849	0.542	0.875	0.588	0.806	0.667	0.000	1.000	0.500	0.818	0.000	0.833	0.375	0.806	0.000	0.851
	0.825				0.858				0.844				0.898				

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR-41 & Bernard Dr
City: Kettleman
Control: Signalized

Project ID: 19-07457-003
Date: 12/5/2019

Cars

NS/EW Streets:	SR-41				SR-41				Bernard Dr				Bernard Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	3	20	10	10	7	33	5	0	0	1	4	0	8	0	3	0	104
7:15 AM	0	22	1	4	4	29	2	0	0	2	5	0	10	0	6	0	85
7:30 AM	1	27	4	6	4	29	2	0	2	0	4	1	10	0	0	0	90
7:45 AM	4	23	5	13	11	31	1	0	1	1	7	0	8	0	5	0	110
8:00 AM	10	20	6	7	10	21	2	0	1	0	5	0	10	1	1	0	94
8:15 AM	1	16	4	8	9	19	1	0	3	1	3	0	9	0	3	0	77
8:30 AM	8	21	6	11	10	21	1	0	0	0	9	0	14	0	4	0	105
8:45 AM	6	20	6	6	2	17	1	0	0	3	10	0	11	0	5	0	87
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	33	169	42	65	57	200	15	0	7	8	47	1	80	1	27	0	752
APPROACH %'s :	10.68%	54.69%	13.59%	21.04%	20.96%	73.53%	5.51%	0.00%	11.11%	12.70%	74.60%	1.59%	74.07%	0.93%	25.00%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	23	80	21	39	40	92	5	0	5	2	24	0	41	1	13	0	386
PEAK HR FACTOR :	0.58	0.870	0.875	0.750	0.909	0.742	0.625	0.000	0.417	0.500	0.667	0.000	0.732	0.250	0.650	0.000	0.877
		0.886				0.797				0.861				0.764			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	5	45	12	18	10	42	1	0	2	1	9	0	19	1	9	0	174
4:15 PM	6	43	6	18	9	40	2	0	2	2	8	0	17	4	4	0	161
4:30 PM	4	45	5	13	17	22	2	0	2	0	6	0	21	1	7	0	145
4:45 PM	6	41	2	13	4	28	2	0	2	5	5	0	11	0	7	0	126
5:00 PM	8	48	10	10	10	22	3	0	1	3	6	0	18	1	10	0	150
5:15 PM	11	40	9	14	10	21	1	0	2	2	8	0	10	0	8	0	136
5:30 PM	4	33	8	18	10	27	0	0	2	1	2	0	11	2	8	0	126
5:45 PM	11	41	6	6	10	28	4	0	2	0	3	0	13	2	6	0	132
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	55	336	58	110	80	230	15	0	15	14	47	0	120	11	59	0	1150
APPROACH %'s :	9.84%	60.11%	10.38%	19.68%	24.62%	70.77%	4.62%	0.00%	19.74%	18.42%	61.84%	0.00%	63.16%	5.79%	31.05%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	21	174	25	62	40	132	7	0	8	8	28	0	68	6	27	0	606
PEAK HR FACTOR :	0.88	0.967	0.521	0.861	0.588	0.786	0.875	0.000	1.000	0.400	0.778	0.000	0.810	0.375	0.750	0.000	0.871
		0.881				0.844				0.917				0.871			

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR-41 & Bernard Dr
City: Kettleman
Control: Signalized

Project ID: 19-07457-003
Date: 12/5/2019

HT

NS/EW Streets:	SR-41				SR-41				Bernard Dr				Bernard Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	2	6	0	1	0	10	1	0	1	1	1	0	1	2	0	0	26
7:15 AM	3	10	0	0	0	6	1	0	0	1	6	0	2	0	0	0	29
7:30 AM	6	8	0	0	2	12	0	0	0	0	4	0	2	1	0	0	35
7:45 AM	3	10	0	0	0	13	0	0	0	0	2	0	2	0	0	0	30
8:00 AM	4	12	0	0	0	7	0	0	0	2	1	0	1	0	2	0	29
8:15 AM	6	9	0	0	0	8	2	0	0	4	6	0	1	3	3	0	42
8:30 AM	3	4	0	0	3	12	1	0	0	2	5	0	4	1	0	0	35
8:45 AM	3	6	2	0	0	10	0	0	0	0	3	0	2	1	0	0	27
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	30	65	2	1	5	78	5	0	1	10	28	0	15	8	5	0	253
APPROACH %'s :	30.61%	66.33%	2.04%	1.02%	5.68%	88.64%	5.68%	0.00%	2.56%	25.64%	71.79%	0.00%	53.57%	28.57%	17.86%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	16	35	0	0	3	40	3	0	0	8	14	0	8	4	5	0	136
PEAK HR FACTOR :	0.667	0.729	0.000	0.000	0.250	0.769	0.375	0.000	0.000	0.500	0.583	0.000	0.500	0.333	0.417	0.000	0.810
	0.797				0.719				0.550				0.607				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	2	18	0	0	0	7	0	0	0	2	2	0	2	0	0	0	33
4:15 PM	1	8	0	0	0	6	0	0	0	0	3	0	3	0	2	0	23
4:30 PM	2	8	1	0	0	8	0	0	0	0	3	0	3	0	0	0	25
4:45 PM	1	6	0	1	0	5	1	0	0	0	0	0	4	0	0	0	18
5:00 PM	1	7	0	0	0	5	0	0	0	0	4	0	1	0	0	0	18
5:15 PM	2	10	1	0	0	3	0	0	0	0	1	0	2	0	0	0	19
5:30 PM	2	9	1	0	0	2	0	0	1	0	1	0	1	0	1	0	18
5:45 PM	1	3	0	0	1	8	0	0	0	0	1	0	2	1	0	0	17
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	12	69	3	1	1	44	1	0	1	2	15	0	18	1	3	0	171
APPROACH %'s :	14.12%	81.18%	3.53%	1.18%	2.17%	95.65%	2.17%	0.00%	5.56%	11.11%	83.33%	0.00%	81.82%	4.55%	13.64%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	6	40	1	1	0	26	1	0	0	2	8	0	12	0	2	0	99
PEAK HR FACTOR :	0.75	0.556	0.250	0.250	0.000	0.813	0.250	0.000	0.000	0.250	0.667	0.000	0.750	0.000	0.250	0.000	0.750
	0.600				0.844				0.625				0.700				

Prepared by National Data & Surveying Services

SR-41 & Bernard Dr

Peak Hour Turning Movement Count

ID: 19-07457-003
City: Kettleman

Day: Thursday
Date: 12/05/2019

	PEAK HOURS	COUNT PERIODS
AM	07:45 AM - 08:45 AM	07:00 AM - 09:00 AM
NOON	NONE	NONE
PM	04:00 PM - 05:00 PM	04:00 PM - 06:00 PM

SR-41 SOUTHBOUND

	Right	Thru	Left	U-Turn	Departing (⇧)
AM	8	132	43	0	138
NOON	0	0	0	0	0
PM	8	158	40	0	251
Lanes	0	1	1	0	

Bernard Dr EASTBOUND

	AM	NOON	PM	Lanes
Departing (⇦)	52	0	41	
U-Turn	0	0	0	0
Left	5	0	8	0
Thru	10	0	10	1
Right	38	0	36	0

Bernard Dr WESTBOUND

	Lanes	PM	NOON	AM
Right	0	29	0	18
Thru	1	6	0	5
Left	0	80	0	49
U-Turn	0	0	0	0
Departing (⇨)		76	0	74

SR-41 NORTHBOUND

	Departing (⇩)	U-Turn	Left	Thru	Right
Lanes		0	1	2	1
PM	337	63	27	214	26
NOON	0	0	0	0	0
AM	258	39	39	115	21

CONTROL

Signalized

	AM	NOON	PM
TEV	522	0	705
PHF	0.93		0.85

Cars (AM)

Approach	Left	Thru	Right
Southbound	40	92	5
Eastbound	5	2	24
Westbound	41	1	13
Northbound	23	80	21

HT (AM)

Approach	Left	Thru	Right
Southbound	3	40	3
Eastbound	0	8	14
Westbound	8	4	5
Northbound	16	35	0

Cars (NOON)

Approach	Left	Thru	Right
Southbound	N/A	N/A	N/A
Eastbound	N/A	N/A	N/A
Westbound	N/A	N/A	N/A
Northbound	N/A	N/A	N/A

HT (NOON)

Approach	Left	Thru	Right
Southbound	N/A	N/A	N/A
Eastbound	N/A	N/A	N/A
Westbound	N/A	N/A	N/A
Northbound	N/A	N/A	N/A

Cars (PM)

Approach	Left	Thru	Right
Southbound	40	132	7
Eastbound	8	8	28
Westbound	68	6	27
Northbound	21	174	25

HT (PM)

Approach	Left	Thru	Right
Southbound	0	26	1
Eastbound	0	2	8
Westbound	12	0	2
Northbound	6	40	1

Pedestrians (Crosswalks)

Crosswalk	AM	NOON	PM
North leg	0	0	0
South leg	0	0	0
East leg	0	0	0
West leg	0	0	0
Diagonal NW	0	0	0
Diagonal NE	0	0	0
Diagonal SW	0	0	0
Diagonal SE	0	0	0

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR-41 & 25th Ave
City: Kettleman
Control: 1-Way Stop (WB)

Project ID: 19-07457-004
Date: 12/5/2019

Total

NS/EW Streets:	SR-41				SR-41				25th Ave				25th Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	0	0	0	0	0.5	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	24	0	0	4	52	0	0	0	0	0	0	2	0	8	0	90
7:15 AM	0	30	3	0	1	35	0	0	0	0	0	0	1	0	4	0	74
7:30 AM	0	32	0	0	1	44	0	0	0	0	0	0	5	0	2	0	84
7:45 AM	0	27	1	0	2	50	0	0	0	0	0	0	3	0	6	0	89
8:00 AM	0	29	2	0	2	31	0	0	0	0	0	0	1	0	6	0	71
8:15 AM	0	25	1	0	2	40	0	0	0	0	0	0	2	0	3	0	73
8:30 AM	0	26	0	0	2	43	0	0	0	0	0	0	1	0	5	0	77
8:45 AM	0	27	1	0	1	26	0	0	0	0	0	0	1	0	0	0	56
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	220	8	0	15	321	0	0	0	0	0	0	16	0	34	0	614
APPROACH %'s :	0.00%	96.49%	3.51%	0.00%	4.46%	95.54%	0.00%	0.00%					32.00%	0.00%	68.00%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	113	4	0	8	181	0	0	0	0	0	0	11	0	20	0	337
PEAK HR FACTOR :	0.000	0.883	0.333	0.000	0.500	0.870	0.000	0.000	0.000	0.000	0.000	0.000	0.550	0.000	0.625	0.000	0.936
	0.886				0.844								0.775				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	0	0	0	0	0.5	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	75	0	0	4	54	0	0	0	0	0	0	1	0	5	0	139
4:15 PM	0	52	1	0	6	56	0	0	0	0	0	0	1	0	4	0	120
4:30 PM	0	66	0	0	0	40	0	0	0	0	0	0	0	0	1	0	107
4:45 PM	0	49	0	0	3	38	0	0	0	0	0	0	0	0	3	0	93
5:00 PM	0	63	0	0	2	35	0	0	0	0	0	0	0	0	1	0	101
5:15 PM	0	62	0	0	3	39	0	0	0	0	0	0	1	0	0	0	105
5:30 PM	0	50	4	0	1	43	0	0	0	0	0	0	0	0	3	0	101
5:45 PM	0	48	1	0	2	44	0	0	0	0	0	0	0	0	3	0	98
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	465	6	0	21	349	0	0	0	0	0	0	3	0	20	0	864
APPROACH %'s :	0.00%	98.73%	1.27%	0.00%	5.68%	94.32%	0.00%	0.00%					13.04%	0.00%	86.96%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	242	1	0	13	188	0	0	0	0	0	0	2	0	13	0	459
PEAK HR FACTOR :	0.000	0.807	0.250	0.000	0.542	0.839	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.650	0.000	0.826
	0.810				0.810								0.625				

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR-41 & 25th Ave
City: Kettleman
Control: 1-Way Stop (WB)

Project ID: 19-07457-004
Date: 12/5/2019

Cars

NS/EW Streets:	SR-41				SR-41				25th Ave				25th Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	0	0	0	0	0.5	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	19	0	0	4	48	0	0	0	0	0	0	1	0	7	0	79
7:15 AM	0	25	0	0	0	29	0	0	0	0	0	0	1	0	4	0	59
7:30 AM	0	27	0	0	1	36	0	0	0	0	0	0	1	0	2	0	67
7:45 AM	0	24	0	0	2	41	0	0	0	0	0	0	2	0	6	0	75
8:00 AM	0	24	0	0	2	27	0	0	0	0	0	0	1	0	6	0	60
8:15 AM	0	20	1	0	1	33	0	0	0	0	0	0	0	0	2	0	57
8:30 AM	0	22	0	0	2	33	0	0	0	0	0	0	0	0	4	0	61
8:45 AM	0	24	0	0	1	17	0	0	0	0	0	0	1	0	0	0	43
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	185	1	0	13	264	0	0	0	0	0	0	7	0	31	0	501
APPROACH %'s :	0.00%	99.46%	0.54%	0.00%	4.69%	95.31%	0.00%	0.00%					18.42%	0.00%	81.58%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	95	0	0	7	154	0	0	0	0	0	0	5	0	19	0	280
PEAK HR FACTOR :	0.00	0.880	0.000	0.000	0.438	0.802	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.679	0.000	0.886
		0.880				0.774								0.750			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	0	0	0	0	0.5	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	62	0	0	4	48	0	0	0	0	0	0	1	0	5	0	120
4:15 PM	0	46	1	0	6	52	0	0	0	0	0	0	1	0	4	0	110
4:30 PM	0	58	0	0	0	36	0	0	0	0	0	0	0	0	1	0	95
4:45 PM	0	45	0	0	3	35	0	0	0	0	0	0	0	0	3	0	86
5:00 PM	0	57	0	0	2	32	0	0	0	0	0	0	0	0	1	0	92
5:15 PM	0	57	0	0	3	35	0	0	0	0	0	0	1	0	0	0	96
5:30 PM	0	42	1	0	1	40	0	0	0	0	0	0	0	0	3	0	87
5:45 PM	0	45	1	0	2	38	0	0	0	0	0	0	0	0	3	0	89
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	412	3	0	21	316	0	0	0	0	0	0	3	0	20	0	775
APPROACH %'s :	0.00%	99.28%	0.72%	0.00%	6.23%	93.77%	0.00%	0.00%					13.04%	0.00%	86.96%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	211	1	0	13	171	0	0	0	0	0	0	2	0	13	0	411
PEAK HR FACTOR :	0.00	0.851	0.250	0.000	0.542	0.822	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.650	0.000	0.856
		0.855				0.793								0.625			

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR-41 & 25th Ave
City: Kettleman
Control: 1-Way Stop (WB)

Project ID: 19-07457-004
Date: 12/5/2019

HT

NS/EW Streets:	SR-41				SR-41				25th Ave				25th Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	0	0	0	0	0.5	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	5	0	0	0	4	0	0	0	0	0	0	1	0	1	0	11
7:15 AM	0	5	3	0	1	6	0	0	0	0	0	0	0	0	0	0	15
7:30 AM	0	5	0	0	0	8	0	0	0	0	0	0	4	0	0	0	17
7:45 AM	0	3	1	0	0	9	0	0	0	0	0	0	1	0	0	0	14
8:00 AM	0	5	2	0	0	4	0	0	0	0	0	0	0	0	0	0	11
8:15 AM	0	5	0	0	1	7	0	0	0	0	0	0	2	0	1	0	16
8:30 AM	0	4	0	0	0	10	0	0	0	0	0	0	1	0	1	0	16
8:45 AM	0	3	1	0	0	9	0	0	0	0	0	0	0	0	0	0	13
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	35	7	0	2	57	0	0	0	0	0	0	9	0	3	0	113
APPROACH %'s :	0.00%	83.33%	16.67%	0.00%	3.39%	96.61%	0.00%	0.00%					75.00%	0.00%	25.00%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	18	4	0	1	27	0	0	0	0	0	0	6	0	1	0	57
PEAK HR FACTOR :	0.000	0.900	0.333	0.000	0.250	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.250	0.000	0.838
		0.688				0.778								0.438			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	0	0	0	0	0.5	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	13	0	0	0	6	0	0	0	0	0	0	0	0	0	0	19
4:15 PM	0	6	0	0	0	4	0	0	0	0	0	0	0	0	0	0	10
4:30 PM	0	8	0	0	0	4	0	0	0	0	0	0	0	0	0	0	12
4:45 PM	0	4	0	0	0	3	0	0	0	0	0	0	0	0	0	0	7
5:00 PM	0	6	0	0	0	3	0	0	0	0	0	0	0	0	0	0	9
5:15 PM	0	5	0	0	0	4	0	0	0	0	0	0	0	0	0	0	9
5:30 PM	0	8	3	0	0	3	0	0	0	0	0	0	0	0	0	0	14
5:45 PM	0	3	0	0	0	6	0	0	0	0	0	0	0	0	0	0	9
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	53	3	0	0	33	0	0	0	0	0	0	0	0	0	0	89
APPROACH %'s :	0.00%	94.64%	5.36%	0.00%	0.00%	100.00%	0.00%	0.00%									
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	31	0	0	0	17	0	0	0	0	0	0	0	0	0	0	48
PEAK HR FACTOR :	0.00	0.596	0.000	0.000	0.000	0.708	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.632
		0.596				0.708											

Prepared by National Data & Surveying Services

SR-41 & 25th Ave

Peak Hour Turning Movement Count

ID: 19-07457-004
City: Kettleman

Day: Thursday
Date: 12/05/2019

PEAK HOURS		COUNT PERIODS
AM	07:00 AM - 08:00 AM	07:00 AM - 09:00 AM
NOON	NONE	NONE
PM	04:00 PM - 05:00 PM	04:00 PM - 06:00 PM

SR-41 SOUTHBOUND

	U-Turn	Right	Thru	Left	Exit (Northbound departing)
AM	0	181	8	0	133
NOON	0	0	0	0	0
PM	0	188	13	0	255
Factor	0	1	0	0	

25th Ave EASTBOUND

Movement	AM	NOON	PM	Factor
Exit	0	0	0	
U-Turn	0	0	0	0
Left	0	0	0	0
Thru	0	0	0	0
Right	0	0	0	0

25th Ave WESTBOUND

Movement	Factor	PM	NOON	AM
Left	0.5	13	0	20
Thru	0.5	0	0	0
Right	0	2	0	11
U-Turn	0	0	0	0
Exit		14	0	12

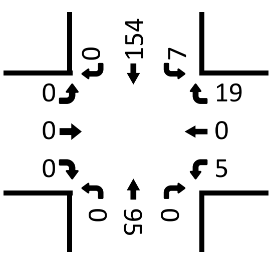
SR-41 NORTHBOUND

	Exit (Southbound departing)	U-Turn	Left	Thru	Right
Factor		0	0	1	0
PM	190	0	0	242	1
NOON	0	0	0	0	0
AM	192	0	0	113	4

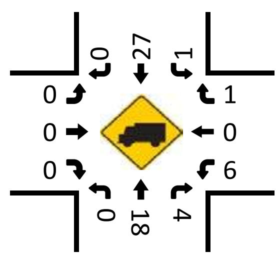
CONTROL: 1-Way Stop (WB)

	AM	NOON	PM
TEV	337	0	459
PHF	0.94		0.83

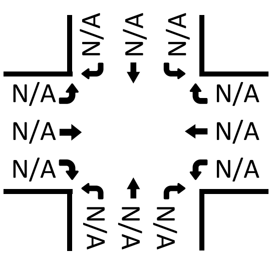
Cars (AM)



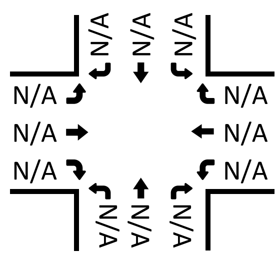
HT (AM)



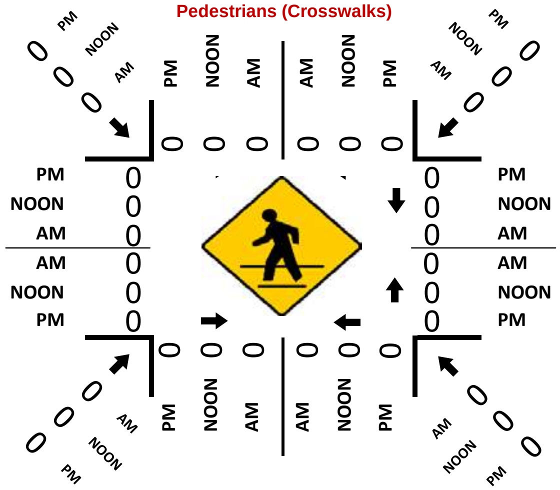
Cars (NOON)



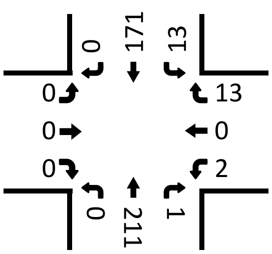
HT (NOON)



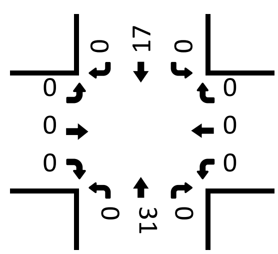
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: 25th Ave & Utica Ave
City: Kettleman
Control: 1-Way Stop (NB)

Project ID: 19-07457-005
Date: 12/5/2019

Total

NS/EW Streets:	25th Ave				25th Ave				Utica Ave				Utica Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	3
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	4	1	0	1	6
7:30 AM	0	0	6	0	0	0	0	0	0	1	0	0	0	0	0	0	7
7:45 AM	4	0	6	0	0	0	0	0	0	4	0	0	0	1	0	0	15
8:00 AM	0	0	0	0	0	0	0	0	0	9	0	0	2	0	0	0	11
8:15 AM	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3
8:30 AM	1	0	1	0	0	0	0	0	0	1	2	0	1	1	0	0	7
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	7	0	13	0	0	0	0	0	0	16	2	0	9	4	0	1	52
APPROACH %'s :	35.00%	0.00%	65.00%	0.00%					0.00%	88.89%	11.11%	0.00%	64.29%	28.57%	0.00%	7.14%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	4	0	12	0	0	0	0	0	0	14	0	0	6	2	0	1	39
PEAK HR FACTOR :	0.250	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.389	0.000	0.000	0.375	0.500	0.000	0.250	0.650
	0.400								0.389				0.375				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	2	0	6	0	0	0	0	0	0	3	0	0	1	1	0	0	13
4:15 PM	2	0	1	0	0	0	0	0	0	0	1	0	2	0	0	0	6
4:30 PM	2	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	5
4:45 PM	0	0	6	0	0	0	0	0	0	1	0	0	1	0	0	0	8
5:00 PM	0	0	4	0	0	0	0	0	0	1	0	0	1	1	0	0	7
5:15 PM	0	0	3	0	0	0	0	0	0	0	1	0	0	2	0	0	6
5:30 PM	0	0	4	0	0	0	0	0	0	0	0	0	1	2	0	0	7
5:45 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	4
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	6	0	27	0	0	0	0	0	0	6	3	0	6	8	0	0	56
APPROACH %'s :	18.18%	0.00%	81.82%	0.00%					0.00%	66.67%	33.33%	0.00%	42.86%	57.14%	0.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	6	0	14	0	0	0	0	0	0	5	2	0	4	1	0	0	32
PEAK HR FACTOR :	0.750	0.000	0.583	0.000	0.000	0.000	0.000	0.000	0.000	0.417	0.500	0.000	0.500	0.250	0.000	0.000	0.615
	0.625								0.583				0.625				

National Data & Surveying Services

Intersection Turning Movement Count

Location: 25th Ave & Utica Ave
City: Kettleman
Control: 1-Way Stop (NB)

Project ID: 19-07457-005
Date: 12/5/2019

Cars

NS/EW Streets:	25th Ave				25th Ave				Utica Ave				Utica Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	3
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	1	4
7:30 AM	0	0	5	0	0	0	0	0	0	1	0	0	0	0	0	0	6
7:45 AM	4	0	6	0	0	0	0	0	0	0	0	0	0	1	0	0	11
8:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	2
8:15 AM	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3
8:30 AM	1	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	5
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	7	0	11	0	0	0	0	0	0	4	1	0	6	4	0	1	34
APPROACH %'s :	38.89%	0.00%	61.11%	0.00%					0.00%	80.00%	20.00%	0.00%	54.55%	36.36%	0.00%	9.09%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	4	0	11	0	0	0	0	0	0	2	0	0	3	2	0	1	23
PEAK HR FACTOR :	0.25	0.000	0.458	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.375	0.500	0.000	0.250	0.523
	0.375								0.500				0.375				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	2	0	6	0	0	0	0	0	0	3	0	0	1	1	0	0	13
4:15 PM	2	0	1	0	0	0	0	0	0	0	1	0	2	0	0	0	6
4:30 PM	2	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	5
4:45 PM	0	0	6	0	0	0	0	0	0	1	0	0	0	0	0	0	7
5:00 PM	0	0	3	0	0	0	0	0	0	1	0	0	1	1	0	0	6
5:15 PM	0	0	2	0	0	0	0	0	0	0	1	0	0	2	0	0	5
5:30 PM	0	0	4	0	0	0	0	0	0	0	0	0	1	2	0	0	7
5:45 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	3
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	6	0	25	0	0	0	0	0	0	6	3	0	5	7	0	0	52
APPROACH %'s :	19.35%	0.00%	80.65%	0.00%					0.00%	66.67%	33.33%	0.00%	41.67%	58.33%	0.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	6	0	14	0	0	0	0	0	0	5	2	0	3	1	0	0	31
PEAK HR FACTOR :	0.75	0.000	0.583	0.000	0.000	0.000	0.000	0.000	0.000	0.417	0.500	0.000	0.375	0.250	0.000	0.000	0.596
	0.625								0.583				0.500				

National Data & Surveying Services

Intersection Turning Movement Count

Location: 25th Ave & Utica Ave
City: Kettleman
Control: 1-Way Stop (NB)

Project ID: 19-07457-005
Date: 12/5/2019

HT

NS/EW Streets:	25th Ave				25th Ave				Utica Ave				Utica Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
7:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
8:00 AM	0	0	0	0	0	0	0	0	0	8	0	0	1	0	0	0	9
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	2	0	0	0	0	0	0	12	1	0	3	0	0	0	18
APPROACH %'s :	0.00%	0.00%	100.00%	0.00%					0.00%	92.31%	7.69%	0.00%	100.00%	0.00%	0.00%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	0	1	0	0	0	0	0	0	12	0	0	3	0	0	0	16
PEAK HR FACTOR :	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.000	0.375	0.000	0.000	0.000	0.444
		0.250								0.375				0.375			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
5:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	2	0	0	0	0	0	0	0	0	0	1	1	0	0	4
APPROACH %'s :	0.00%	0.00%	100.00%	0.00%									50.00%	50.00%	0.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250
														0.250			

Prepared by National Data & Surveying Services

25th Ave & Utica Ave

Peak Hour Turning Movement Count

ID: 19-07457-005
City: Kettleman

Day: Thursday
Date: 12/05/2019

PEAK HOURS	COUNT PERIODS
07:15 AM - 08:15 AM	07:00 AM - 09:00 AM
NONE	NONE
04:00 PM - 05:00 PM	04:00 PM - 06:00 PM

SOUTHBOUND (25th Ave)

AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	0	PM

EASTBOUND (Utica Ave)

AM	NOON	PM	
6	0	7	⇦
0	0	0	↶ 0
0	0	0	↱ 0
14	0	5	→ 1
0	0	2	↴ 0

WESTBOUND (Utica Ave)

PM	NOON	AM	
0	0	0	↰ 0
1	0	2	← 1
4	0	6	↶ 0
0	0	1	↩ 0
19	0	27	⇨

NORTHBOUND (25th Ave)

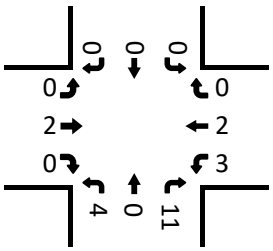
PM	6	0	6	0	14	PM
NOON	0	0	0	0	0	NOON
AM	6	0	4	0	12	AM

CONTROL

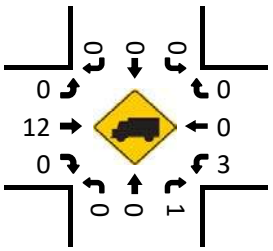
1-Way Stop (NB)

TEV	39 AM	0 NOON	32 PM
PHF	0.65		0.62

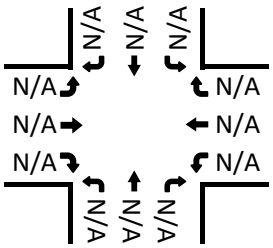
Cars (AM)



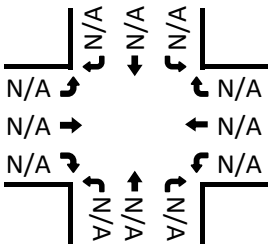
HT (AM)



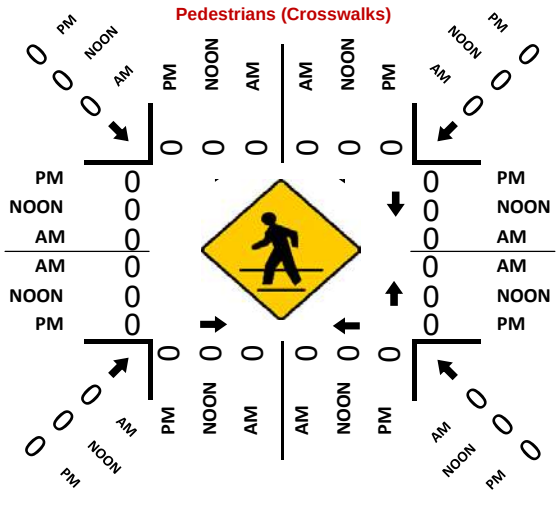
Cars (NOON)



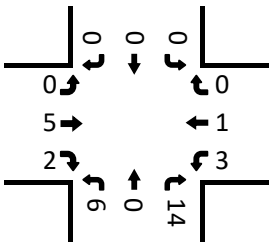
HT (NOON)



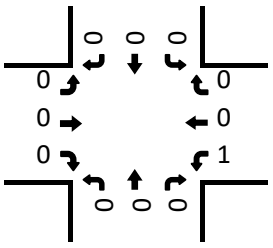
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: I-5 SB Ramps & Utica Ave
City: Kettleman
Control: 1-Way Stop (SB)

Project ID: 19-07457-006
Date: 12/5/2019

Total

NS/EW Streets:	I-5 SB Ramps				I-5 SB Ramps				Utica Ave				Utica Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0.5	0.5	0	0	1	1	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	6	2	1	0	0	1	0	0	0	2	0	0	12
7:15 AM	0	0	0	0	3	1	3	0	0	0	1	0	0	1	0	0	9
7:30 AM	0	0	0	0	6	1	1	0	0	3	2	0	0	0	0	0	13
7:45 AM	0	0	0	0	5	1	0	0	0	7	4	0	0	1	0	0	18
8:00 AM	0	0	0	0	1	0	0	0	0	2	8	0	0	2	0	0	13
8:15 AM	0	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	3
8:30 AM	0	0	0	0	3	1	0	0	0	1	0	0	0	2	0	0	7
8:45 AM	0	0	0	0	3	1	0	0	0	1	0	0	0	0	0	0	5
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	27	8	6	0	0	15	15	0	1	8	0	0	80
APPROACH %'s :					65.85%	19.51%	14.63%	0.00%	0.00%	50.00%	50.00%	0.00%	11.11%	88.89%	0.00%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	0	0	0	15	3	4	0	0	12	15	0	0	4	0	0	53
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.625	0.750	0.333	0.000	0.000	0.429	0.469	0.000	0.000	0.500	0.000	0.000	0.736
						0.688				0.614				0.500			

NS/EW Streets:	I-5 SB Ramps				I-5 SB Ramps				Utica Ave				Utica Ave				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0.5	0.5	0	0	1	1	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	7	3	0	0	0	9	1	0	0	2	0	0	22
4:15 PM	0	0	0	0	6	0	0	0	0	1	0	0	0	1	0	0	8
4:30 PM	0	0	0	0	3	0	1	0	0	2	0	0	0	0	0	0	6
4:45 PM	0	0	0	0	5	0	1	0	0	7	0	0	0	0	0	0	13
5:00 PM	0	0	0	0	2	0	2	0	0	4	1	0	0	0	0	0	9
5:15 PM	0	0	0	0	4	1	0	0	0	3	0	0	0	2	0	0	10
5:30 PM	0	0	0	0	4	1	0	0	0	4	0	0	1	3	0	0	13
5:45 PM	0	0	0	0	8	1	0	0	0	2	0	0	0	2	0	0	13
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	39	6	4	0	0	32	2	0	1	10	0	0	94
APPROACH %'s :					79.59%	12.24%	8.16%	0.00%	0.00%	94.12%	5.88%	0.00%	9.09%	90.91%	0.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	21	3	2	0	0	19	1	0	0	3	0	0	49
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.750	0.250	0.500	0.000	0.000	0.528	0.250	0.000	0.000	0.375	0.000	0.000	0.557
						0.650				0.500				0.375			

National Data & Surveying Services

Intersection Turning Movement Count

Location: I-5 SB Ramps & Utica Ave
City: Kettleman
Control: 1-Way Stop (SB)

Project ID: 19-07457-006
Date: 12/5/2019

Cars

NS/EW Streets:	I-5 SB Ramps				I-5 SB Ramps				Utica Ave				Utica Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0.5	0.5	0	0	1	1	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	6	0	1	0	0	1	0	0	0	2	0	0	10
7:15 AM	0	0	0	0	3	1	1	0	0	0	1	0	0	1	0	0	7
7:30 AM	0	0	0	0	3	1	1	0	0	3	2	0	0	0	0	0	10
7:45 AM	0	0	0	0	4	0	0	0	0	6	0	0	0	1	0	0	11
8:00 AM	0	0	0	0	1	0	0	0	0	1	1	0	0	1	0	0	4
8:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	1	0	0	0	0	1	0	0	0	2	0	0	4
8:45 AM	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	19	3	4	0	0	12	4	0	0	7	0	0	49
APPROACH %'s :					73.08%	11.54%	15.38%	0.00%	0.00%	75.00%	25.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	0	0	0	11	2	2	0	0	10	4	0	0	3	0	0	32
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.688	0.500	0.500	0.000	0.000	0.417	0.500	0.000	0.000	0.750	0.000	0.000	0.727
						0.750				0.583				0.750			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0.5	0.5	0	0	1	1	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	6	0	0	0	0	8	1	0	0	2	0	0	17
4:15 PM	0	0	0	0	6	0	0	0	0	1	0	0	0	1	0	0	8
4:30 PM	0	0	0	0	3	0	1	0	0	2	0	0	0	0	0	0	6
4:45 PM	0	0	0	0	4	0	0	0	0	7	0	0	0	0	0	0	11
5:00 PM	0	0	0	0	2	0	2	0	0	4	0	0	0	0	0	0	8
5:15 PM	0	0	0	0	3	0	0	0	0	2	0	0	0	2	0	0	7
5:30 PM	0	0	0	0	4	1	0	0	0	4	0	0	1	3	0	0	13
5:45 PM	0	0	0	0	8	0	0	0	0	2	0	0	0	1	0	0	11
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	36	1	3	0	0	30	1	0	1	9	0	0	81
APPROACH %'s :					90.00%	2.50%	7.50%	0.00%	0.00%	96.77%	3.23%	0.00%	10.00%	90.00%	0.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	19	0	1	0	0	18	1	0	0	3	0	0	42
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.792	0.000	0.250	0.000	0.000	0.563	0.250	0.000	0.000	0.375	0.000	0.000	0.618
						0.833				0.528				0.375			

National Data & Surveying Services

Intersection Turning Movement Count

Location: I-5 SB Ramps & Utica Ave
City: Kettleman
Control: 1-Way Stop (SB)

Project ID: 19-07457-006
Date: 12/5/2019

HT

NS/EW Streets:	I-5 SB Ramps				I-5 SB Ramps				Utica Ave				Utica Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0.5	0.5	0	0	1	1	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
7:15 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
7:30 AM	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3
7:45 AM	0	0	0	0	1	1	0	0	0	1	4	0	0	0	0	0	7
8:00 AM	0	0	0	0	0	0	0	0	0	1	7	0	0	1	0	0	9
8:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	2
8:30 AM	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	3
8:45 AM	0	0	0	0	2	0	0	0	0	1	0	0	0	0	0	0	3
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	8	5	2	0	0	3	11	0	1	1	0	0	31
APPROACH %'s :					53.33%	33.33%	13.33%	0.00%	0.00%	21.43%	78.57%	0.00%	50.00%	50.00%	0.00%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	0	0	0	0	4	1	2	0	0	2	11	0	0	1	0	0	21
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.333	0.250	0.250	0.000	0.000	0.500	0.393	0.000	0.000	0.250	0.000	0.000	0.583
					0.583				0.406				0.250				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0.5	0.5	0	0	1	1	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	1	3	0	0	0	1	0	0	0	0	0	0	5
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
5:15 PM	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	3	5	1	0	0	2	1	0	0	1	0	0	13
APPROACH %'s :					33.33%	55.56%	11.11%	0.00%	0.00%	66.67%	33.33%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	2	3	1	0	0	1	0	0	0	0	0	0	7
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.500	0.250	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.350
					0.375				0.250								

Prepared by National Data & Surveying Services

I-5 SB Ramps & Utica Ave

Peak Hour Turning Movement Count

ID: 19-07457-006
City: Kettleman

Day: Thursday
Date: 12/05/2019

PEAK HOURS	COUNT PERIODS
07:15 AM - 08:15 AM	07:00 AM - 09:00 AM
NONE	NONE
04:00 PM - 05:00 PM	04:00 PM - 06:00 PM

SOUTHBOUND — I-5 SB Ramps

AM	4	3	15	0	0	AM
NOON	0	0	0	0	0	NOON
PM	2	3	21	0	0	PM

EASTBOUND — Utica Ave

AM	NOON	PM	
8	0	5	
0	0	0	0
0	0	0	0
12	0	19	1
15	0	1	1
AM	NOON	PM	

WESTBOUND — Utica Ave

PM	NOON	AM	
0	0	0	0
3	0	4	1
0	0	0	0
0	0	0	0
40	0	27	
PM	NOON	AM	

NORTHBOUND — I-5 SB Ramps

PM	4	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	18	0	0	0	0	AM

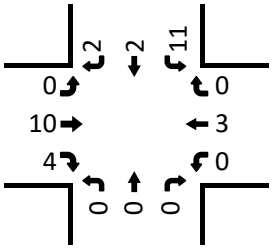
0.5	0.5	0	0
0	0	0	0

CONTROL

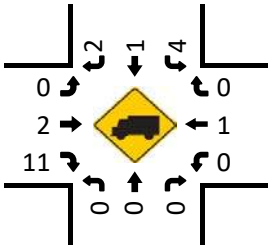
1-Way Stop (SB)

TEV	53 AM	0 NOON	49 PM
PHF	0.74		0.56

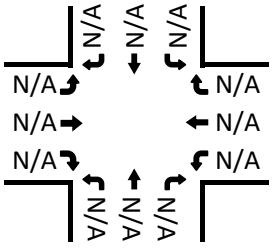
Cars (AM)



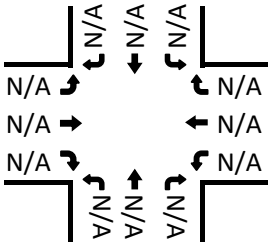
HT (AM)



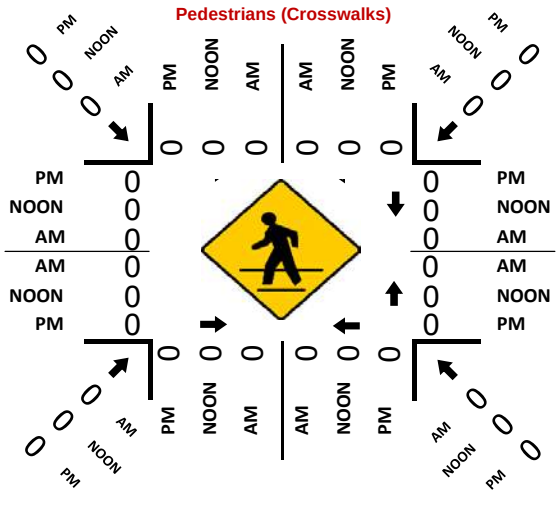
Cars (NOON)



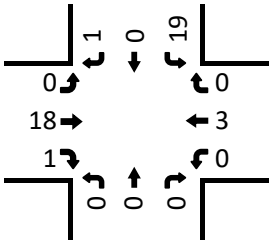
HT (NOON)



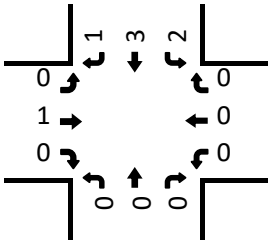
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: I-5 NB Ramps & Utica Ave
City: Kettleman
Control: 1-Way Stop (NB)

Project ID: 19-07457-007
Date: 12/5/2019

Total

NS/EW Streets:	I-5 NB Ramps				I-5 NB Ramps				Utica Ave				Utica Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0.5	0.5	0	0	0	0	0	0	1	0	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	2	1	0	0	0	0	0	0	7	0	0	0	2	5	0	17
7:15 AM	1	4	1	0	0	0	0	0	0	2	0	0	0	0	4	0	12
7:30 AM	0	1	0	0	0	0	0	0	2	8	0	0	0	0	8	0	19
7:45 AM	0	1	2	0	0	0	0	0	7	5	0	0	0	1	6	0	22
8:00 AM	1	0	0	0	0	0	0	0	1	2	0	0	0	1	5	0	10
8:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	3
8:30 AM	1	1	0	0	0	0	0	0	0	4	0	0	0	1	4	0	11
8:45 AM	0	1	0	0	0	0	0	0	1	3	0	0	0	0	4	0	9
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	3	11	4	0	0	0	0	0	11	31	0	0	0	6	37	0	103
APPROACH %'s :	16.67%	61.11%	22.22%	0.00%					26.19%	73.81%	0.00%	0.00%	0.00%	13.95%	86.05%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	1	8	4	0	0	0	0	0	9	22	0	0	0	3	23	0	70
PEAK HR FACTOR :	0.250	0.500	0.500	0.000	0.000	0.000	0.000	0.000	0.321	0.688	0.000	0.000	0.000	0.375	0.719	0.000	0.795
	0.542								0.646				0.813				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0.5	0.5	0	0	0	0	0	0	1	0	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	1	0	0	0	0	0	0	0	3	13	0	0	0	1	3	0	21
4:15 PM	0	1	1	0	0	0	0	0	1	7	0	0	0	1	2	0	13
4:30 PM	0	2	1	0	0	0	0	0	1	4	0	0	0	0	8	0	16
4:45 PM	0	1	0	0	0	0	0	0	5	7	0	0	0	0	4	0	17
5:00 PM	0	0	1	0	0	0	0	0	3	2	0	0	0	0	1	0	7
5:15 PM	0	0	0	0	0	0	0	0	3	5	0	0	0	2	3	0	13
5:30 PM	0	0	0	0	0	0	0	0	5	3	0	0	0	4	4	0	16
5:45 PM	2	0	1	0	0	0	0	0	1	8	0	0	0	0	6	0	18
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	3	4	4	0	0	0	0	0	22	49	0	0	0	8	31	0	121
APPROACH %'s :	27.27%	36.36%	36.36%	0.00%					30.99%	69.01%	0.00%	0.00%	0.00%	20.51%	79.49%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	1	4	2	0	0	0	0	0	10	31	0	0	0	2	17	0	67
PEAK HR FACTOR :	0.250	0.500	0.500	0.000	0.000	0.000	0.000	0.000	0.500	0.596	0.000	0.000	0.000	0.500	0.531	0.000	0.798
	0.583								0.641				0.594				

National Data & Surveying Services

Intersection Turning Movement Count

Location: I-5 NB Ramps & Utica Ave
City: Kettleman
Control: 1-Way Stop (NB)

Project ID: 19-07457-007
Date: 12/5/2019

Cars

NS/EW Streets:	I-5 NB Ramps				I-5 NB Ramps				Utica Ave				Utica Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0.5	0.5	0	0	0	0	0	0	1	0	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	1	0	0	0	0	0	0	0	7	0	0	0	2	4	0	14
7:15 AM	1	2	0	0	0	0	0	0	0	2	0	0	0	0	3	0	8
7:30 AM	0	0	0	0	0	0	0	0	2	5	0	0	0	0	8	0	15
7:45 AM	0	0	2	0	0	0	0	0	6	4	0	0	0	1	5	0	18
8:00 AM	0	0	0	0	0	0	0	0	1	1	0	0	0	1	4	0	7
8:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
8:30 AM	1	0	0	0	0	0	0	0	0	2	0	0	0	1	4	0	8
8:45 AM	0	1	0	0	0	0	0	0	0	1	0	0	0	0	3	0	5
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	2	5	2	0	0	0	0	0	9	22	0	0	0	5	32	0	77
APPROACH %'s :	22.22%	55.56%	22.22%	0.00%					29.03%	70.97%	0.00%	0.00%	0.00%	13.51%	86.49%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	1	3	2	0	0	0	0	0	8	18	0	0	0	3	20	0	55
PEAK HR FACTOR :	0.25	0.375	0.250	0.000	0.000	0.000	0.000	0.000	0.333	0.643	0.000	0.000	0.000	0.375	0.625	0.000	0.764
	0.500								0.650				0.719				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0.5	0.5	0	0	0	0	0	0	1	0	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	1	0	0	0	0	0	0	0	1	12	0	0	0	1	2	0	17
4:15 PM	0	1	1	0	0	0	0	0	1	7	0	0	0	1	2	0	13
4:30 PM	0	0	1	0	0	0	0	0	1	4	0	0	0	0	8	0	14
4:45 PM	0	0	0	0	0	0	0	0	5	6	0	0	0	0	4	0	15
5:00 PM	0	0	0	0	0	0	0	0	3	2	0	0	0	0	1	0	6
5:15 PM	0	0	0	0	0	0	0	0	2	4	0	0	0	2	3	0	11
5:30 PM	0	0	0	0	0	0	0	0	5	3	0	0	0	4	3	0	15
5:45 PM	1	0	1	0	0	0	0	0	1	8	0	0	0	0	6	0	17
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	2	1	3	0	0	0	0	0	19	46	0	0	0	8	29	0	108
APPROACH %'s :	33.33%	16.67%	50.00%	0.00%					29.23%	70.77%	0.00%	0.00%	0.00%	21.62%	78.38%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	1	1	2	0	0	0	0	0	8	29	0	0	0	2	16	0	59
PEAK HR FACTOR :	0.25	0.250	0.500	0.000	0.000	0.000	0.000	0.000	0.400	0.604	0.000	0.000	0.000	0.500	0.500	0.000	0.868
	0.500								0.712				0.563				

National Data & Surveying Services

Intersection Turning Movement Count

Location: I-5 NB Ramps & Utica Ave
City: Kettleman
Control: 1-Way Stop (NB)

Project ID: 19-07457-007
Date: 12/5/2019

HT

NS/EW Streets:	I-5 NB Ramps				I-5 NB Ramps				Utica Ave				Utica Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0.5	0.5	0	0	0	0	0	0	1	0	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	3
7:15 AM	0	2	1	0	0	0	0	0	0	0	0	0	0	0	1	0	4
7:30 AM	0	1	0	0	0	0	0	0	0	3	0	0	0	0	0	0	4
7:45 AM	0	1	0	0	0	0	0	0	1	1	0	0	0	0	1	0	4
8:00 AM	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	3
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8:30 AM	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	3
8:45 AM	0	0	0	0	0	0	0	0	1	2	0	0	0	0	1	0	4
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	6	2	0	0	0	0	0	2	9	0	0	0	1	5	0	26
APPROACH %'s :	11.11%	66.67%	22.22%	0.00%					18.18%	81.82%	0.00%	0.00%	0.00%	16.67%	83.33%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	5	2	0	0	0	0	0	1	4	0	0	0	0	3	0	15
PEAK HR FACTOR :	0.000	0.625	0.500	0.000	0.000	0.000	0.000	0.000	0.250	0.333	0.000	0.000	0.000	0.000	0.750	0.000	0.938
		0.583								0.417				0.750			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0.5	0.5	0	0	0	0	0	0	1	0	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	2	1	0	0	0	0	1	0	4
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:45 PM	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
5:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
5:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1	3	1	0	0	0	0	0	3	3	0	0	0	0	2	0	13
APPROACH %'s :	20.00%	60.00%	20.00%	0.00%					50.00%	50.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	3	0	0	0	0	0	0	2	2	0	0	0	0	1	0	8
PEAK HR FACTOR :	0.00	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.500	0.000	0.000	0.000	0.000	0.250	0.000	0.500
		0.375								0.333				0.250			

Prepared by National Data & Surveying Services

I-5 NB Ramps & Utica Ave

Peak Hour Turning Movement Count

ID: 19-07457-007
City: Kettleman

Day: Thursday
Date: 12/05/2019

PEAK HOURS

AM	07:00 AM - 08:00 AM
NOON	NONE
PM	04:00 PM - 05:00 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

I-5 NB Ramps — SOUTHBOUND

AM	0	0	0	0	40	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	31	PM

Utica Ave — EASTBOUND

AM	NOON	PM		
4	0	3	⇦	
0	0	0	↶	0
9	0	10	↱	0
22	0	31	→	1
0	0	0	↴	0
AM	NOON	PM		

CONTROL

1-Way Stop (NB)

	AM	NOON	PM
TEV	70	0	67
PHF	0.80		0.80

Utica Ave — WESTBOUND

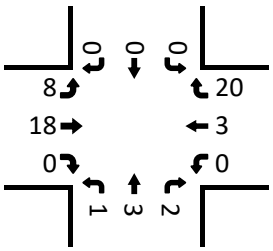
PM	NOON	AM		
17	0	23	↰	1
2	0	3	←	1
0	0	0	↰	0
0	0	0	↰	0
33	0	26	⇨	
PM	NOON	AM		

I-5 NB Ramps — NORTHBOUND

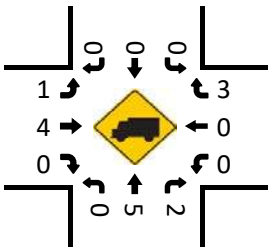
PM	0	0	1	4	2	PM
NOON	0	0	0	0	0	NOON
AM	0	0	1	8	4	AM

0 0 0.5 0.5

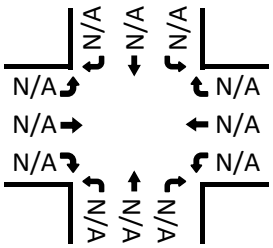
Cars (AM)



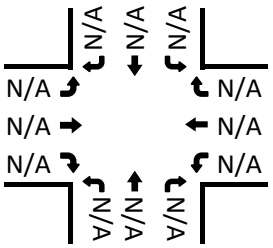
HT (AM)



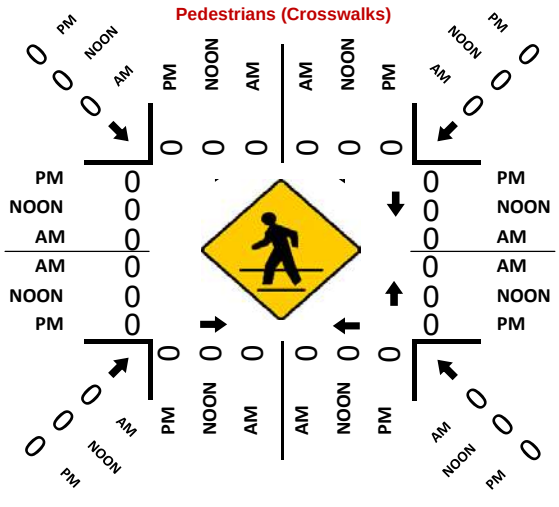
Cars (NOON)



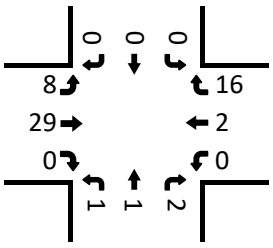
HT (NOON)



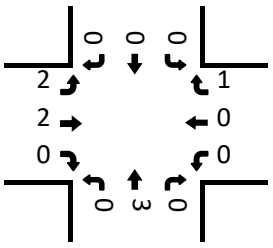
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Frontage Rd & Utica Ave
City: Kettleman
Control: 1-Way Stop (SB)

Project ID: 19-07457-008
Date: 12/5/2019

Total

NS/EW Streets:	Frontage Rd				Frontage Rd				Utica Ave				Utica Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	7	0	1	0	6	0	0	14
7:15 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	4	0	0	7
7:30 AM	0	0	0	0	0	0	0	0	0	8	0	0	0	8	0	0	16
7:45 AM	0	0	0	0	0	0	0	0	0	5	0	1	0	6	0	0	12
8:00 AM	0	0	0	0	0	0	0	0	0	2	0	1	0	5	0	0	8
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	4	0	0	0	5	0	0	9
8:45 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	4	0	0	7
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	32	0	3	0	40	0	0	75
APPROACH %'s :									0.00%	91.43%	0.00%	8.57%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	23	0	2	0	24	0	0	49
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.719	0.000	0.500	0.000	0.750	0.000	0.000	0.766
										0.781				0.750			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	2	0	0	0	0	14	0	0	0	3	0	0	19
4:15 PM	0	0	0	0	0	0	0	0	1	5	0	0	0	3	0	0	9
4:30 PM	0	0	0	0	0	0	0	0	1	5	0	0	0	8	0	0	14
4:45 PM	0	0	0	0	0	0	0	0	0	7	0	0	0	4	0	0	11
5:00 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	4
5:15 PM	0	0	0	0	0	0	0	0	0	5	0	0	0	4	0	0	9
5:30 PM	0	0	0	0	0	0	1	0	0	3	0	0	0	8	0	0	12
5:45 PM	0	0	0	0	0	0	0	0	0	8	0	1	0	5	0	0	14
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	2	0	1	0	2	50	0	1	0	36	0	0	92
APPROACH %'s :					66.67%	0.00%	33.33%	0.00%	3.77%	94.34%	0.00%	1.89%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	2	0	0	0	2	31	0	0	0	18	0	0	53
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.500	0.554	0.000	0.000	0.000	0.563	0.000	0.000	0.697
						0.250				0.589				0.563			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Frontage Rd & Utica Ave
City: Kettleman
Control: 1-Way Stop (SB)

Project ID: 19-07457-008
Date: 12/5/2019

Cars

NS/EW Streets:	Frontage Rd				Frontage Rd				Utica Ave				Utica Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	7	0	0	0	6	0	0	13
7:15 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	0	5
7:30 AM	0	0	0	0	0	0	0	0	0	5	0	0	0	8	0	0	13
7:45 AM	0	0	0	0	0	0	0	0	0	4	0	1	0	5	0	0	10
8:00 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	5	0	0	7
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	5	0	0	7
8:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	4
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	23	0	1	0	36	0	0	60
APPROACH %'s :									0.00%	95.83%	0.00%	4.17%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	18	0	1	0	22	0	0	41
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.643	0.000	0.250	0.000	0.688	0.000	0.000	0.788
										0.679				0.688			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	2	0	0	0	0	13	0	0	0	2	0	0	17
4:15 PM	0	0	0	0	0	0	0	0	1	5	0	0	0	3	0	0	9
4:30 PM	0	0	0	0	0	0	0	0	1	5	0	0	0	8	0	0	14
4:45 PM	0	0	0	0	0	0	0	0	0	6	0	0	0	4	0	0	10
5:00 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	3
5:15 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	4	0	0	8
5:30 PM	0	0	0	0	0	0	1	0	0	3	0	0	0	7	0	0	11
5:45 PM	0	0	0	0	0	0	0	0	0	8	0	1	0	5	0	0	14
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	2	0	1	0	2	46	0	1	0	34	0	0	86
APPROACH %'s :					66.67%	0.00%	33.33%	0.00%	4.08%	93.88%	0.00%	2.04%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	2	0	0	0	2	29	0	0	0	17	0	0	50
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.500	0.558	0.000	0.000	0.000	0.531	0.000	0.000	0.735
						0.250				0.596				0.531			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Frontage Rd & Utica Ave
City: Kettleman
Control: 1-Way Stop (SB)

Project ID: 19-07457-008
Date: 12/5/2019

HT

NS/EW Streets:	Frontage Rd				Frontage Rd				Utica Ave				Utica Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
7:30 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
7:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
8:45 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	3
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	9	0	2	0	4	0	0	15
APPROACH %'s :									0.00%	81.82%	0.00%	18.18%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	5	0	1	0	2	0	0	8
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.417	0.000	0.250	0.000	0.500	0.000	0.000	0.667
										0.500				0.500			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	4	0	0	0	2	0	0	6
APPROACH %'s :									0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	3
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.250	0.000	0.000	0.375
										0.500				0.250			

Prepared by National Data & Surveying Services

Frontage Rd & Utica Ave

Peak Hour Turning Movement Count

ID: 19-07457-008
City: Kettleman

Day: Thursday
Date: 12/05/2019

PEAK HOURS

AM	07:00 AM - 08:00 AM
NOON	NONE
PM	04:00 PM - 05:00 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

Frontage Rd — SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	0	0	2	0	2	PM

Utica Ave — EASTBOUND

AM	NOON	PM		
26	0	18	⇦	
2	0	0	↶	0
0	0	2	↱	0
23	0	31	→	1
0	0	0	↷	0
AM	NOON	PM		

CONTROL

1-Way Stop (SB)

TEV	49 AM	0 NOON	53 PM
PHF	0.77		0.70

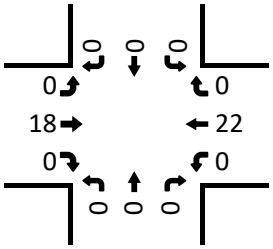
WESTBOUND — Utica Ave

PM	NOON	AM		
0	0	0	↶	0
18	0	24	←	1
0	0	0	↰	0
0	0	0	↷	0
33	0	23	⇨	
PM	NOON	AM		

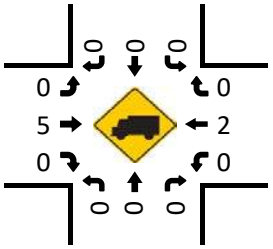
Frontage Rd — NORTHBOUND

PM	0	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

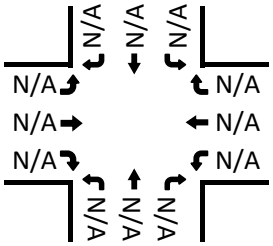
Cars (AM)



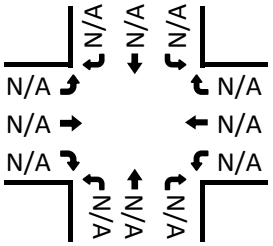
HT (AM)



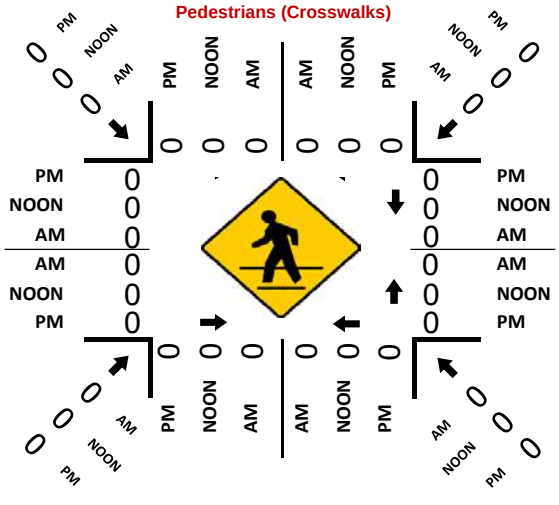
Cars (NOON)



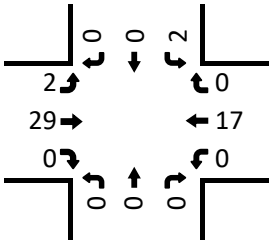
HT (NOON)



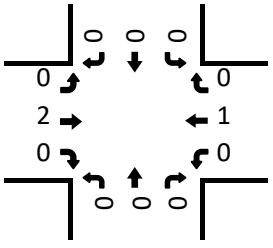
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: SR-41 & I-5 SB Ramps
City: Kettleman
Control: Signalized

Project ID: 19-07457-001
Date: 12/6/2019

Total

NS/EW Streets:	SR-41				SR-41				I-5 SB Ramps				I-5 SB Ramps				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	0.5	0.5	0	2	2	0	0	1.3	0.3	0.3	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	0	77	5	0	37	48	0	0	35	0	8	0	0	0	0	0	210
2:15 PM	0	59	5	0	31	80	0	2	19	1	17	0	0	0	0	0	214
2:30 PM	0	54	8	0	34	72	0	1	34	0	17	0	0	0	0	0	220
2:45 PM	0	67	9	0	35	74	0	0	34	1	16	0	0	0	0	0	236
3:00 PM	0	71	16	0	45	68	0	1	11	5	13	0	0	0	0	0	230
3:15 PM	0	51	5	0	24	64	0	1	19	2	11	0	0	0	0	0	177
3:30 PM	0	68	9	0	21	70	0	0	23	6	12	0	0	0	0	0	209
3:45 PM	0	53	3	0	32	70	0	1	16	4	12	0	0	0	0	0	191
4:00 PM	0	63	9	0	34	75	0	0	29	3	13	0	0	0	0	0	226
4:15 PM	0	83	2	0	18	79	0	1	27	0	20	0	0	0	0	0	230
4:30 PM	0	61	6	0	31	58	0	0	25	2	12	0	0	0	0	0	195
4:45 PM	0	87	11	0	24	79	0	0	20	3	17	0	0	0	0	0	241
5:00 PM	0	63	2	0	31	58	0	1	29	1	14	0	0	0	0	0	199
5:15 PM	0	72	8	0	26	59	0	0	15	1	6	0	0	0	0	0	187
5:30 PM	0	55	3	0	32	69	0	0	33	0	8	0	0	0	0	0	200
5:45 PM	0	49	4	0	28	48	0	2	16	0	9	0	0	0	0	0	156
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1033	105	0	483	1071	0	10	385	29	205	0	0	0	0	0	3321
APPROACH %'s :	0.00%	90.77%	9.23%	0.00%	30.88%	68.48%	0.00%	0.64%	62.20%	4.68%	33.12%	0.00%					
PEAK HR :	02:15 PM - 03:15 PM																TOTAL
PEAK HR VOL :	0	251	38	0	145	294	0	4	98	7	63	0	0	0	0	0	900
PEAK HR FACTOR :	0.000	0.884	0.594	0.000	0.806	0.919	0.000	0.500	0.721	0.350	0.926	0.000	0.000	0.000	0.000	0.000	0.953
		0.830				0.971				0.824							

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR-41 & I-5 SB Ramps
City: Kettleman
Control: Signalized

Project ID: 19-07457-001
Date: 12/6/2019

Cars

NS/EW Streets:	SR-41				SR-41				I-5 SB Ramps				I-5 SB Ramps				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	0.5	0.5	0	2	2	0	0	1.3	0.3	0.3	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	0	64	3	0	30	45	0	0	34	0	7	0	0	0	0	0	183
2:15 PM	0	42	5	0	24	71	0	2	16	1	16	0	0	0	0	0	177
2:30 PM	0	40	6	0	28	66	0	1	34	0	12	0	0	0	0	0	187
2:45 PM	0	56	7	0	31	70	0	0	33	1	13	0	0	0	0	0	211
3:00 PM	0	66	8	0	40	65	0	1	11	2	12	0	0	0	0	0	205
3:15 PM	0	45	2	0	22	61	0	1	16	2	10	0	0	0	0	0	159
3:30 PM	0	65	7	0	16	68	0	0	22	5	10	0	0	0	0	0	193
3:45 PM	0	50	2	0	24	67	0	1	16	2	8	0	0	0	0	0	170
4:00 PM	0	57	4	0	28	68	0	0	23	3	12	0	0	0	0	0	195
4:15 PM	0	75	1	0	15	76	0	1	26	0	18	0	0	0	0	0	212
4:30 PM	0	55	5	0	25	55	0	0	22	1	11	0	0	0	0	0	174
4:45 PM	0	79	4	0	17	75	0	0	19	0	13	0	0	0	0	0	207
5:00 PM	0	59	0	0	23	56	0	1	25	0	13	0	0	0	0	0	177
5:15 PM	0	67	6	0	22	59	0	0	14	0	5	0	0	0	0	0	173
5:30 PM	0	46	2	0	25	65	0	0	29	0	8	0	0	0	0	0	175
5:45 PM	0	44	4	0	19	45	0	2	14	0	9	0	0	0	0	0	137
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	910	66	0	389	1012	0	10	354	17	177	0	0	0	0	0	2935
APPROACH %'s :	0.00%	93.24%	6.76%	0.00%	27.57%	71.72%	0.00%	0.71%	64.60%	3.10%	32.30%	0.00%					
PEAK HR :	02:15 PM - 03:15 PM																TOTAL
PEAK HR VOL :	0	204	26	0	123	272	0	4	94	4	53	0	0	0	0	0	780
PEAK HR FACTOR :	0.00	0.773	0.813	0.000	0.769	0.958	0.000	0.500	0.691	0.500	0.828	0.000	0.000	0.000	0.000	0.000	0.924
		0.777				0.941				0.803							

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR-41 & I-5 SB Ramps
City: Kettleman
Control: Signalized

Project ID: 19-07457-001
Date: 12/6/2019

HT

NS/EW Streets:	SR-41				SR-41				I-5 SB Ramps				I-5 SB Ramps				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	0.5	0.5	0	2	2	0	0	1.3	0.3	0.3	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	0	13	2	0	7	3	0	0	1	0	1	0	0	0	0	0	27
2:15 PM	0	17	0	0	7	9	0	0	3	0	1	0	0	0	0	0	37
2:30 PM	0	14	2	0	6	6	0	0	0	0	5	0	0	0	0	0	33
2:45 PM	0	11	2	0	4	4	0	0	1	0	3	0	0	0	0	0	25
3:00 PM	0	5	8	0	5	3	0	0	0	3	1	0	0	0	0	0	25
3:15 PM	0	6	3	0	2	3	0	0	3	0	1	0	0	0	0	0	18
3:30 PM	0	3	2	0	5	2	0	0	1	1	2	0	0	0	0	0	16
3:45 PM	0	3	1	0	8	3	0	0	0	2	4	0	0	0	0	0	21
4:00 PM	0	6	5	0	6	7	0	0	6	0	1	0	0	0	0	0	31
4:15 PM	0	8	1	0	3	3	0	0	1	0	2	0	0	0	0	0	18
4:30 PM	0	6	1	0	6	3	0	0	3	1	1	0	0	0	0	0	21
4:45 PM	0	8	7	0	7	4	0	0	1	3	4	0	0	0	0	0	34
5:00 PM	0	4	2	0	8	2	0	0	4	1	1	0	0	0	0	0	22
5:15 PM	0	5	2	0	4	0	0	0	1	1	1	0	0	0	0	0	14
5:30 PM	0	9	1	0	7	4	0	0	4	0	0	0	0	0	0	0	25
5:45 PM	0	5	0	0	9	3	0	0	2	0	0	0	0	0	0	0	19
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	123	39	0	94	59	0	0	31	12	28	0	0	0	0	0	386
APPROACH %'s :	0.00%	75.93%	24.07%	0.00%	61.44%	38.56%	0.00%	0.00%	43.66%	16.90%	39.44%	0.00%					
PEAK HR :	02:15 PM - 03:15 PM																TOTAL
PEAK HR VOL :	0	47	12	0	22	22	0	0	4	3	10	0	0	0	0	0	120
PEAK HR FACTOR :	0.00	0.691	0.375	0.000	0.786	0.611	0.000	0.000	0.333	0.250	0.500	0.000	0.000	0.000	0.000	0.000	0.811
		0.868				0.688				0.850							

Prepared by National Data & Surveying Services

SR-41 & I-5 SB Ramps

Peak Hour Turning Movement Count

ID: 19-07457-001
City: Kettleman

Day: Friday
Date: 12/06/2019

	PEAK HOURS	COUNT PERIODS
AM	NONE	NONE
NOON	NONE	NONE
PM	02:15 PM - 03:15 PM	02:00 PM - 06:00 PM

SR-41 SOUTHBOUND

	U-turn	Left	Through	Right	Out
AM	0	0	0	0	0
NOON	0	0	0	0	0
PM	0	294	145	4	353
HT %	0	2	2	0	

I-5 SB Ramps EASTBOUND

Movement	AM	NOON	PM	HT %
Out	0	0	0	
U-turn	0	0	0	0
Left	0	0	98	1.3
Through	0	0	7	0.3
Right	0	0	63	0.3

I-5 SB Ramps WESTBOUND

Movement	PM	NOON	AM	HT %
U-turn	0	0	0	0
Through	0	0	0	0
Left	0	0	0	0
Right	0	0	0	0
Out	190	0	0	

SR-41 NORTHBOUND

	Out	U-turn	Left	Through	Right
HT %		0	1	0.5	0.5
PM	357	0	0	251	38
NOON	0	0	0	0	0
AM	0	0	0	0	0

CONTROL

Signalized

	AM	NOON	PM
TEV	0	0	900
PHF			0.95

Cars (AM)

All movements: N/A

Cars (NOON)

All movements: N/A

Cars (PM)

Approach	U-turn	Left	Through	Right
Southbound	0	272		123
Eastbound		94	4	53
Westbound	0	0		0
Northbound	0		204	26

HT (AM)

All movements: N/A

HT (NOON)

All movements: N/A

HT (PM)

Approach	U-turn	Left	Through	Right
Southbound	0	22		22
Eastbound		4	3	10
Westbound	0	0		0
Northbound	0		47	12

Pedestrians (Crosswalks)

Crosswalk	AM	NOON	PM
North	0	0	0
North	0	0	0
South	0	0	0
South	0	0	0
West	0	0	0
West	0	0	0
East	0	0	0
East	0	0	0
Diagonals	0	0	0

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR-41 & I-5 NB Ramps
City: Kettleman
Control: 1-Way Stop (WB)

Project ID: 19-07457-002
Date: 12/6/2019

Total

NS/EW Streets:	SR-41				SR-41				I-5 NB Ramps				I-5 NB Ramps				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	1.5	0.5	0	0	0	0	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	18	94	0	0	0	85	36	0	0	0	0	0	5	2	46	0	286
2:15 PM	6	75	0	0	0	97	40	0	0	0	0	0	8	0	57	0	283
2:30 PM	11	77	0	0	0	99	43	0	0	0	0	0	4	0	43	0	277
2:45 PM	12	89	0	0	0	114	28	0	0	0	0	0	3	0	35	0	281
3:00 PM	4	76	0	0	0	104	38	0	0	0	0	0	2	0	41	0	265
3:15 PM	9	64	0	0	0	86	38	0	0	0	0	0	1	0	43	0	241
3:30 PM	8	80	0	1	0	89	30	0	0	0	0	0	1	0	35	0	244
3:45 PM	5	66	0	0	0	104	26	0	0	0	0	0	2	2	37	0	242
4:00 PM	5	88	0	0	0	107	22	0	0	0	0	0	8	0	28	0	258
4:15 PM	11	99	0	0	0	85	21	0	0	0	0	0	11	1	36	0	264
4:30 PM	10	77	0	0	0	83	33	0	0	0	0	0	6	1	28	0	238
4:45 PM	9	99	0	0	0	101	23	0	0	0	0	0	2	1	33	0	268
5:00 PM	7	88	0	0	0	86	26	0	0	0	0	0	6	1	31	0	245
5:15 PM	5	80	0	0	0	84	24	0	0	0	0	0	1	0	37	0	231
5:30 PM	8	81	0	0	0	103	27	0	0	0	0	0	3	1	24	0	247
5:45 PM	5	63	0	0	0	77	14	0	0	0	0	0	4	0	24	0	187
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	133	1296	0	1	0	1504	469	0	0	0	0	0	67	9	578	0	4057
APPROACH %'s :	9.30%	90.63%	0.00%	0.07%	0.00%	76.23%	23.77%	0.00%					10.24%	1.38%	88.38%	0.00%	
PEAK HR :	02:00 PM - 03:00 PM																TOTAL
PEAK HR VOL :	47	335	0	0	0	395	147	0	0	0	0	0	20	2	181	0	1127
PEAK HR FACTOR :	0.653	0.891	0.000	0.000	0.000	0.866	0.855	0.000	0.000	0.000	0.000	0.000	0.625	0.250	0.794	0.000	0.985
	0.853				0.954								0.781				

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR-41 & I-5 NB Ramps
City: Kettleman
Control: 1-Way Stop (WB)

Project ID: 19-07457-002
Date: 12/6/2019

Cars

NS/EW Streets:	SR-41				SR-41				I-5 NB Ramps				I-5 NB Ramps				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	1.5	0.5	0	0	0	0	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	15	83	0	0	0	75	35	0	0	0	0	0	4	1	42	0	255
2:15 PM	3	58	0	0	0	85	37	0	0	0	0	0	5	0	49	0	237
2:30 PM	8	66	0	0	0	86	39	0	0	0	0	0	4	0	33	0	236
2:45 PM	9	81	0	0	0	107	28	0	0	0	0	0	3	0	33	0	261
3:00 PM	3	71	0	0	0	97	36	0	0	0	0	0	2	0	33	0	242
3:15 PM	8	56	0	0	0	80	35	0	0	0	0	0	1	0	36	0	216
3:30 PM	7	77	0	1	0	83	29	0	0	0	0	0	1	0	29	0	227
3:45 PM	5	63	0	0	0	91	24	0	0	0	0	0	2	0	28	0	213
4:00 PM	5	76	0	0	0	95	19	0	0	0	0	0	8	0	23	0	226
4:15 PM	8	93	0	0	0	79	21	0	0	0	0	0	10	0	33	0	244
4:30 PM	10	68	0	0	0	74	32	0	0	0	0	0	6	0	24	0	214
4:45 PM	6	93	0	0	0	91	20	0	0	0	0	0	2	1	30	0	243
5:00 PM	4	83	0	0	0	76	24	0	0	0	0	0	6	1	23	0	217
5:15 PM	5	74	0	0	0	79	22	0	0	0	0	0	1	0	32	0	213
5:30 PM	2	74	0	0	0	92	24	0	0	0	0	0	3	0	18	0	213
5:45 PM	4	57	0	0	0	66	13	0	0	0	0	0	4	0	22	0	166
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	102	1173	0	1	0	1356	438	0	0	0	0	0	62	3	488	0	3623
APPROACH %'s :	7.99%	91.93%	0.00%	0.08%	0.00%	75.59%	24.41%	0.00%					11.21%	0.54%	88.25%	0.00%	
PEAK HR :	02:00 PM - 03:00 PM																TOTAL
PEAK HR VOL :	35	288	0	0	0	353	139	0	0	0	0	0	16	1	157	0	989
PEAK HR FACTOR :	0.58	0.867	0.000	0.000	0.000	0.825	0.891	0.000	0.000	0.000	0.000	0.000	0.800	0.250	0.801	0.000	0.947
	0.824				0.911								0.806				

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR-41 & I-5 NB Ramps
City: Kettleman
Control: 1-Way Stop (WB)

Project ID: 19-07457-002
Date: 12/6/2019

HT

NS/EW Streets:	SR-41				SR-41				I-5 NB Ramps				I-5 NB Ramps				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	0	1.5	0.5	0	0	0	0	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	3	11	0	0	0	10	1	0	0	0	0	0	1	1	4	0	31
2:15 PM	3	17	0	0	0	12	3	0	0	0	0	0	3	0	8	0	46
2:30 PM	3	11	0	0	0	13	4	0	0	0	0	0	0	0	10	0	41
2:45 PM	3	8	0	0	0	7	0	0	0	0	0	0	0	0	2	0	20
3:00 PM	1	5	0	0	0	7	2	0	0	0	0	0	0	0	8	0	23
3:15 PM	1	8	0	0	0	6	3	0	0	0	0	0	0	0	7	0	25
3:30 PM	1	3	0	0	0	6	1	0	0	0	0	0	0	0	6	0	17
3:45 PM	0	3	0	0	0	13	2	0	0	0	0	0	0	2	9	0	29
4:00 PM	0	12	0	0	0	12	3	0	0	0	0	0	0	0	5	0	32
4:15 PM	3	6	0	0	0	6	0	0	0	0	0	0	1	1	3	0	20
4:30 PM	0	9	0	0	0	9	1	0	0	0	0	0	0	1	4	0	24
4:45 PM	3	6	0	0	0	10	3	0	0	0	0	0	0	0	3	0	25
5:00 PM	3	5	0	0	0	10	2	0	0	0	0	0	0	0	8	0	28
5:15 PM	0	6	0	0	0	5	2	0	0	0	0	0	0	0	5	0	18
5:30 PM	6	7	0	0	0	11	3	0	0	0	0	0	0	1	6	0	34
5:45 PM	1	6	0	0	0	11	1	0	0	0	0	0	0	0	2	0	21
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	31	123	0	0	0	148	31	0	0	0	0	0	5	6	90	0	434
APPROACH %'s :	20.13%	79.87%	0.00%	0.00%	0.00%	82.68%	17.32%	0.00%					4.95%	5.94%	89.11%	0.00%	
PEAK HR :	02:00 PM - 03:00 PM																TOTAL
PEAK HR VOL :	12	47	0	0	0	42	8	0	0	0	0	0	4	1	24	0	138
PEAK HR FACTOR :	1.00	0.691	0.000	0.000	0.000	0.808	0.500	0.000	0.000	0.000	0.000	0.000	0.333	0.250	0.600	0.000	0.750
	0.738				0.735								0.659				

Prepared by National Data & Surveying Services

SR-41 & I-5 NB Ramps

Peak Hour Turning Movement Count

ID: 19-07457-002
City: Kettleman

Day: Friday
Date: 12/06/2019

PEAK HOURS	
AM	NONE
NOON	NONE
PM	02:00 PM - 03:00 PM

COUNT PERIODS	
AM	NONE
NOON	NONE
PM	02:00 PM - 06:00 PM

SR-41 SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	147	395	0	0	516	PM

I-5 NB Ramps EASTBOUND

AM	NOON	PM	
0	0	196	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
AM	NOON	PM	

CONTROL

1-Way Stop (WB)

	AM	NOON	PM
TEV	0	0	1127
PHF			0.99

I-5 NB Ramps WESTBOUND

PM	NOON	AM	
181	0	0	1
2	0	0	1
20	0	0	0
0	0	0	0
0	0	0	
PM	NOON	AM	

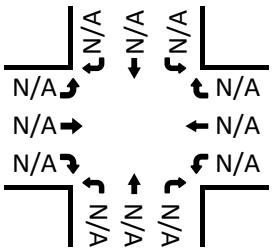
SR-41 NORTHBOUND

PM	415	0	47	335	0	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

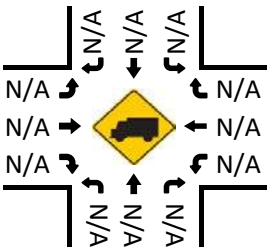
0.5 1.5 0 0

0 1 2 0

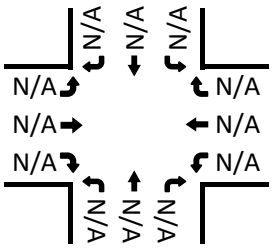
Cars (AM)



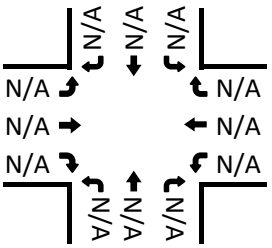
HT (AM)



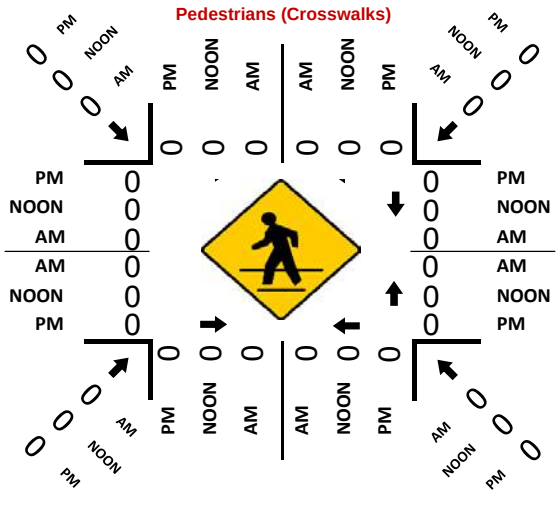
Cars (NOON)



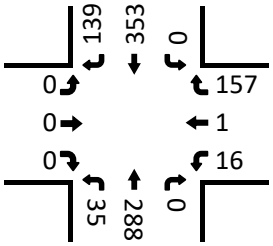
HT (NOON)



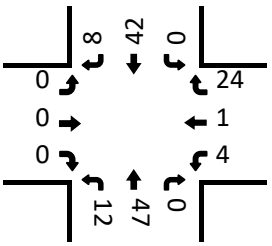
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

SR-41 & Bernard Dr

Peak Hour Turning Movement Count

ID: 19-07457-003
City: Kettleman

Day: Friday
Date: 12/06/2019

PEAK HOURS	COUNT PERIODS
NONE	NONE
NONE	NONE
02:15 PM - 03:15 PM	02:00 PM - 06:00 PM

CONTROL: Signalized

	AM	NOON	PM
TEV	0	0	1087
PHF			0.94

SR-41 SOUTHBOUND

	Left	Thru	Thru	Right		
AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	13	245	71	1	325	PM
	0	1	1	0		

EASTBOUND (Bernard Dr)

	AM	NOON	PM	
	0	0	67	
	0	0	0	0
	0	0	7	0
	0	0	9	1
	0	0	58	0
	AM	NOON	PM	

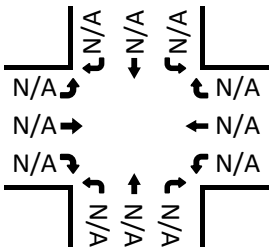
WESTBOUND (Bernard Dr)

	PM	NOON	AM
0	47	0	0
1	7	0	0
0	153	0	0
0	0	0	0
	129	0	0
	PM	NOON	AM

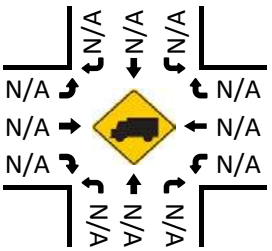
SR-41 NORTHBOUND

	Left	Thru	Thru	Right		
PM	566	110	47	270	49	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM
		0	1	2	1	

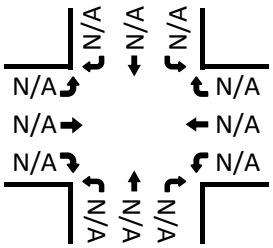
Cars (AM)



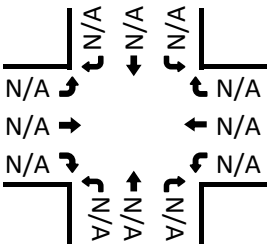
HT (AM)



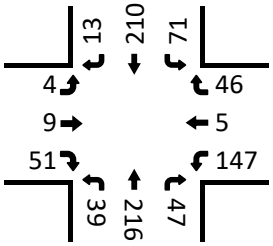
Cars (NOON)



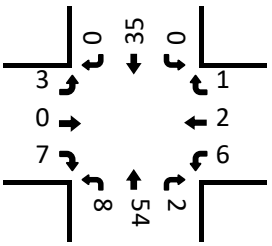
HT (NOON)



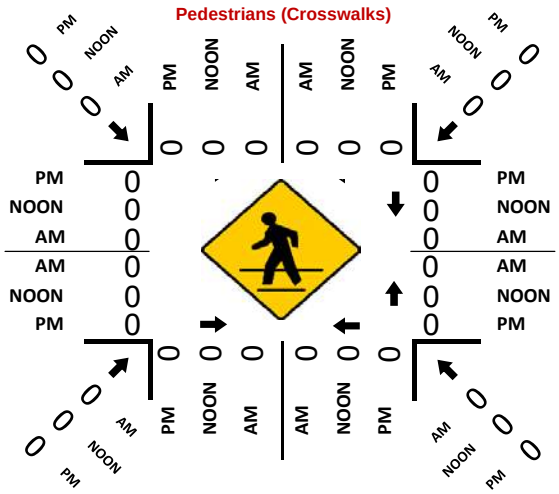
Cars (PM)



HT (PM)



Pedestrians (Crosswalks)



National Data & Surveying Services

Intersection Turning Movement Count

Location: SR-41 & Bernard Dr
City: Kettleman
Control: Signalized

Project ID: 19-07457-003
Date: 12/6/2019

Total

NS/EW Streets:	SR-41				SR-41				Bernard Dr				Bernard Dr				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	8	70	13	38	16	37	0	0	4	2	6	0	37	1	9	0	241
2:15 PM	16	69	16	28	27	62	4	0	1	0	12	0	36	1	16	0	288
2:30 PM	10	63	12	21	20	65	9	0	3	3	14	0	42	3	6	0	271
2:45 PM	10	75	12	30	12	60	0	0	2	2	15	0	43	2	10	0	273
3:00 PM	11	63	9	31	12	58	0	1	1	4	17	0	32	1	15	0	255
3:15 PM	10	64	11	18	13	62	7	0	3	2	16	0	33	3	7	0	249
3:30 PM	6	75	9	15	16	49	3	0	1	1	16	0	31	1	7	0	230
3:45 PM	7	51	10	20	16	66	2	0	1	3	13	0	32	0	11	0	232
4:00 PM	10	84	12	19	12	68	3	0	1	0	18	0	23	3	8	1	262
4:15 PM	11	77	11	14	8	67	2	0	1	1	11	0	16	0	6	0	225
4:30 PM	7	58	8	28	16	64	3	1	1	0	7	0	24	0	4	0	221
4:45 PM	5	77	14	29	12	60	6	0	1	1	12	0	25	1	10	0	253
5:00 PM	8	68	13	15	16	50	6	0	3	1	16	0	26	0	14	0	236
5:15 PM	9	62	8	22	19	54	1	0	3	0	8	0	24	4	12	0	226
5:30 PM	14	64	8	33	17	62	2	0	0	2	9	0	28	0	8	0	247
5:45 PM	13	50	13	6	22	52	5	0	3	3	13	0	20	4	5	0	209
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	155	1070	179	367	254	936	53	2	29	25	203	0	472	24	148	1	3918
APPROACH %'s :	8.75%	60.42%	10.11%	20.72%	20.40%	75.18%	4.26%	0.16%	11.28%	9.73%	78.99%	0.00%	73.18%	3.72%	22.95%	0.16%	
PEAK HR :	02:15 PM - 03:15 PM																TOTAL
PEAK HR VOL :	47	270	49	110	71	245	13	1	7	9	58	0	153	7	47	0	1087
PEAK HR FACTOR :	0.734	0.900	0.766	0.887	0.657	0.942	0.361	0.250	0.583	0.563	0.853	0.000	0.890	0.583	0.734	0.000	0.944
	0.922				0.878				0.841				0.941				

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR-41 & Bernard Dr
City: Kettleman
Control: Signalized

Project ID: 19-07457-003
Date: 12/6/2019

Cars

NS/EW Streets:	SR-41				SR-41				Bernard Dr				Bernard Dr				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	6	58	13	38	16	31	0	0	2	1	4	0	35	1	8	0	213
2:15 PM	11	54	14	28	27	49	4	0	1	0	11	0	34	1	15	0	249
2:30 PM	10	41	12	21	20	53	9	0	2	3	12	0	40	3	6	0	232
2:45 PM	9	65	12	30	12	54	0	0	1	2	12	0	43	1	10	0	251
3:00 PM	9	56	9	31	12	54	0	1	0	4	16	0	30	0	15	0	237
3:15 PM	7	54	11	18	13	58	7	0	3	2	11	0	33	2	7	0	226
3:30 PM	4	69	9	15	16	44	3	0	0	1	15	0	31	1	7	0	215
3:45 PM	6	42	9	19	16	57	2	0	0	3	8	0	32	0	11	0	205
4:00 PM	9	73	11	19	12	57	3	0	1	0	14	0	22	3	7	1	232
4:15 PM	9	71	11	14	8	62	2	0	1	1	10	0	16	0	6	0	211
4:30 PM	7	51	8	28	15	55	3	1	1	0	7	0	23	0	4	0	203
4:45 PM	4	69	14	28	12	51	5	0	1	1	12	0	22	1	10	0	230
5:00 PM	6	63	13	15	16	44	6	0	3	1	14	0	22	0	14	0	217
5:15 PM	8	52	8	22	19	50	1	0	3	0	6	0	23	2	11	0	205
5:30 PM	12	51	8	32	17	52	2	0	0	2	7	0	27	0	8	0	218
5:45 PM	12	43	13	6	21	44	5	0	2	2	9	0	20	4	5	0	186
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	129	912	175	364	252	815	52	2	21	23	168	0	453	19	144	1	3530
APPROACH %'s :	8.16%	57.72%	11.08%	23.04%	22.48%	72.70%	4.64%	0.18%	9.91%	10.85%	79.25%	0.00%	73.42%	3.08%	23.34%	0.16%	
PEAK HR :	02:15 PM - 03:15 PM																TOTAL
PEAK HR VOL :	39	216	47	110	71	210	13	1	4	9	51	0	147	5	46	0	969
PEAK HR FACTOR :	0.89	0.831	0.839	0.887	0.657	0.972	0.361	0.250	0.500	0.563	0.797	0.000	0.855	0.417	0.767	0.000	0.965
		0.888				0.899				0.800				0.917			

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR-41 & Bernard Dr
City: Kettleman
Control: Signalized

Project ID: 19-07457-003
Date: 12/6/2019

HT

NS/EW Streets:	SR-41				SR-41				Bernard Dr				Bernard Dr				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	2	12	0	0	0	6	0	0	2	1	2	0	2	0	1	0	28
2:15 PM	5	15	2	0	0	13	0	0	0	0	1	0	2	0	1	0	39
2:30 PM	0	22	0	0	0	12	0	0	1	0	2	0	2	0	0	0	39
2:45 PM	1	10	0	0	0	6	0	0	1	0	3	0	0	1	0	0	22
3:00 PM	2	7	0	0	0	4	0	0	1	0	1	0	2	1	0	0	18
3:15 PM	3	10	0	0	0	4	0	0	0	0	5	0	0	1	0	0	23
3:30 PM	2	6	0	0	0	5	0	0	1	0	1	0	0	0	0	0	15
3:45 PM	1	9	1	1	0	9	0	0	1	0	5	0	0	0	0	0	27
4:00 PM	1	11	1	0	0	11	0	0	0	0	4	0	1	0	1	0	30
4:15 PM	2	6	0	0	0	5	0	0	0	0	1	0	0	0	0	0	14
4:30 PM	0	7	0	0	1	9	0	0	0	0	0	0	1	0	0	0	18
4:45 PM	1	8	0	1	0	9	1	0	0	0	0	0	3	0	0	0	23
5:00 PM	2	5	0	0	0	6	0	0	0	0	2	0	4	0	0	0	19
5:15 PM	1	10	0	0	0	4	0	0	0	0	2	0	1	2	1	0	21
5:30 PM	2	13	0	1	0	10	0	0	0	0	2	0	1	0	0	0	29
5:45 PM	1	7	0	0	1	8	0	0	1	1	4	0	0	0	0	0	23
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	26	158	4	3	2	121	1	0	8	2	35	0	19	5	4	0	388
APPROACH %'s :	13.61%	82.72%	2.09%	1.57%	1.61%	97.58%	0.81%	0.00%	17.78%	4.44%	77.78%	0.00%	67.86%	17.86%	14.29%	0.00%	
PEAK HR :	02:15 PM - 03:15 PM																TOTAL
PEAK HR VOL :	8	54	2	0	0	35	0	0	3	0	7	0	6	2	1	0	118
PEAK HR FACTOR :	0.40	0.614	0.250	0.000	0.000	0.673	0.000	0.000	0.750	0.000	0.583	0.000	0.750	0.500	0.250	0.000	0.756
	0.727				0.673				0.625				0.750				

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR-41 & 25th Ave
City: Kettleman
Control: 1-Way Stop (WB)

Project ID: 19-07457-004
Date: 12/6/2019

Total

NS/EW Streets:	SR-41				SR-41				25th Ave				25th Ave				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	0	0	0	0	0.5	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	0	80	0	0	1	41	0	0	0	0	0	0	1	0	9	0	132
2:15 PM	0	74	1	0	5	78	0	0	0	0	0	0	1	0	8	0	167
2:30 PM	0	72	1	0	5	104	0	0	0	0	0	0	0	0	9	0	191
2:45 PM	0	85	0	0	3	71	0	0	0	0	0	0	0	0	6	0	165
3:00 PM	0	79	1	0	1	64	0	0	0	0	0	0	0	0	7	0	152
3:15 PM	0	67	1	0	3	82	0	0	0	0	0	0	0	0	3	0	156
3:30 PM	0	81	2	0	3	69	0	0	0	0	0	0	0	0	0	0	155
3:45 PM	0	63	0	0	2	85	0	0	0	0	0	0	0	0	11	0	161
4:00 PM	0	78	0	0	0	81	0	0	0	0	0	0	0	0	11	0	170
4:15 PM	0	83	1	0	5	79	0	0	0	0	0	0	0	0	10	0	178
4:30 PM	0	64	1	0	2	81	0	0	0	0	0	0	0	0	16	0	164
4:45 PM	0	86	0	0	4	73	0	0	0	0	0	0	0	0	5	0	168
5:00 PM	0	84	0	0	2	77	0	0	0	0	0	0	0	0	2	0	165
5:15 PM	0	80	2	0	2	81	0	0	0	0	0	0	2	0	0	0	167
5:30 PM	0	62	3	0	4	89	0	0	0	0	0	0	0	0	1	0	159
5:45 PM	0	55	6	0	2	72	0	0	0	0	0	0	1	0	6	0	142
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1193	19	0	44	1227	0	0	0	0	0	0	5	0	104	0	2592
APPROACH %'s :	0.00%	98.43%	1.57%	0.00%	3.46%	96.54%	0.00%	0.00%					4.59%	0.00%	95.41%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	311	2	0	11	314	0	0	0	0	0	0	0	0	42	0	680
PEAK HR FACTOR :	0.000	0.904	0.500	0.000	0.550	0.969	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.656	0.000	0.955
		0.910				0.967									0.656		

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR-41 & 25th Ave
City: Kettleman
Control: 1-Way Stop (WB)

Project ID: 19-07457-004
Date: 12/6/2019

Cars

NS/EW Streets:	SR-41				SR-41				25th Ave				25th Ave				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	0	0	0	0	0.5	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	0	67	0	0	1	39	0	0	0	0	0	0	1	0	6	0	114
2:15 PM	0	62	1	0	5	69	0	0	0	0	0	0	0	0	8	0	145
2:30 PM	0	48	1	0	5	92	0	0	0	0	0	0	0	0	9	0	155
2:45 PM	0	72	0	0	3	63	0	0	0	0	0	0	0	0	5	0	143
3:00 PM	0	72	1	0	1	61	0	0	0	0	0	0	0	0	6	0	141
3:15 PM	0	55	0	0	2	78	0	0	0	0	0	0	0	0	3	0	138
3:30 PM	0	75	2	0	2	62	0	0	0	0	0	0	0	0	0	0	141
3:45 PM	0	52	0	0	2	76	0	0	0	0	0	0	0	0	11	0	141
4:00 PM	0	69	0	0	0	69	0	0	0	0	0	0	0	0	11	0	149
4:15 PM	0	75	1	0	4	73	0	0	0	0	0	0	0	0	9	0	162
4:30 PM	0	56	1	0	2	73	0	0	0	0	0	0	0	0	15	0	147
4:45 PM	0	81	0	0	4	66	0	0	0	0	0	0	0	0	5	0	156
5:00 PM	0	78	0	0	2	70	0	0	0	0	0	0	0	0	2	0	152
5:15 PM	0	73	1	0	2	77	0	0	0	0	0	0	2	0	0	0	155
5:30 PM	0	57	0	0	4	79	0	0	0	0	0	0	0	0	1	0	141
5:45 PM	0	48	4	0	2	66	0	0	0	0	0	0	0	0	5	0	125
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	1040	12	0	41	1113	0	0	0	0	0	0	3	0	96	0	2305
APPROACH %'s :	0.00%	98.86%	1.14%	0.00%	3.55%	96.45%	0.00%	0.00%					3.03%	0.00%	96.97%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	281	2	0	10	281	0	0	0	0	0	0	0	0	40	0	614
PEAK HR FACTOR :	0.00	0.867	0.500	0.000	0.625	0.962	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.667	0.000	0.948
		0.873				0.945									0.667		

National Data & Surveying Services

Intersection Turning Movement Count

Location: SR-41 & 25th Ave
City: Kettleman
Control: 1-Way Stop (WB)

Project ID: 19-07457-004
Date: 12/6/2019

HT

NS/EW Streets:	SR-41				SR-41				25th Ave				25th Ave				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	0	0	0	0	0.5	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	0	13	0	0	0	2	0	0	0	0	0	0	0	0	3	0	18
2:15 PM	0	12	0	0	0	9	0	0	0	0	0	0	1	0	0	0	22
2:30 PM	0	24	0	0	0	12	0	0	0	0	0	0	0	0	0	0	36
2:45 PM	0	13	0	0	0	8	0	0	0	0	0	0	0	0	1	0	22
3:00 PM	0	7	0	0	0	3	0	0	0	0	0	0	0	0	1	0	11
3:15 PM	0	12	1	0	1	4	0	0	0	0	0	0	0	0	0	0	18
3:30 PM	0	6	0	0	1	7	0	0	0	0	0	0	0	0	0	0	14
3:45 PM	0	11	0	0	0	9	0	0	0	0	0	0	0	0	0	0	20
4:00 PM	0	9	0	0	0	12	0	0	0	0	0	0	0	0	0	0	21
4:15 PM	0	8	0	0	1	6	0	0	0	0	0	0	0	0	1	0	16
4:30 PM	0	8	0	0	0	8	0	0	0	0	0	0	0	0	1	0	17
4:45 PM	0	5	0	0	0	7	0	0	0	0	0	0	0	0	0	0	12
5:00 PM	0	6	0	0	0	7	0	0	0	0	0	0	0	0	0	0	13
5:15 PM	0	7	1	0	0	4	0	0	0	0	0	0	0	0	0	0	12
5:30 PM	0	5	3	0	0	10	0	0	0	0	0	0	0	0	0	0	18
5:45 PM	0	7	2	0	0	6	0	0	0	0	0	0	1	0	1	0	17
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	153	7	0	3	114	0	0	0	0	0	0	2	0	8	0	287
APPROACH %'s :	0.00%	95.63%	4.38%	0.00%	2.56%	97.44%	0.00%	0.00%					20.00%	0.00%	80.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	30	0	0	1	33	0	0	0	0	0	0	0	0	2	0	66
PEAK HR FACTOR :	0.00	0.833	0.000	0.000	0.250	0.688	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.786
		0.833				0.708								0.500			

Prepared by National Data & Surveying Services

SR-41 & 25th Ave

Peak Hour Turning Movement Count

ID: 19-07457-004
City: Kettleman

Day: Friday
Date: 12/06/2019

PEAK HOURS	COUNT PERIODS
NONE	NONE
NONE	NONE
04:00 PM - 05:00 PM	02:00 PM - 06:00 PM

SR-41 SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	0	314	11	0	353	PM

25th Ave EASTBOUND

AM	NOON	PM		
0	0	0		
0	0	0	0	
0	0	0	0	
0	0	0	0	
0	0	0	0	
AM	NOON	PM		

WESTBOUND 25th Ave

PM	NOON	AM	
42	0	0	0.5
0	0	0	0.5
0	0	0	0
0	0	0	0
13	0	0	
PM	NOON	AM	

CONTROL

1-Way Stop (WB)

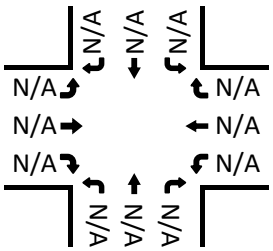
	AM	NOON	PM
TEV	0	0	680
PHF			0.96

SR-41 NORTHBOUND

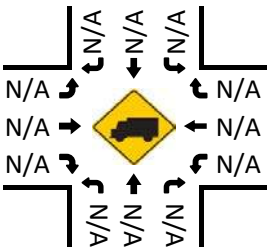
PM	314	0	0	311	2	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

0 1 0 0 — 0 0 1 0

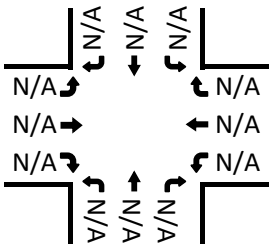
Cars (AM)



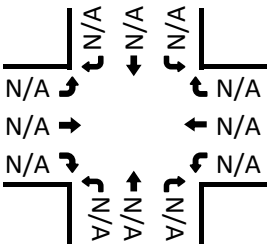
HT (AM)



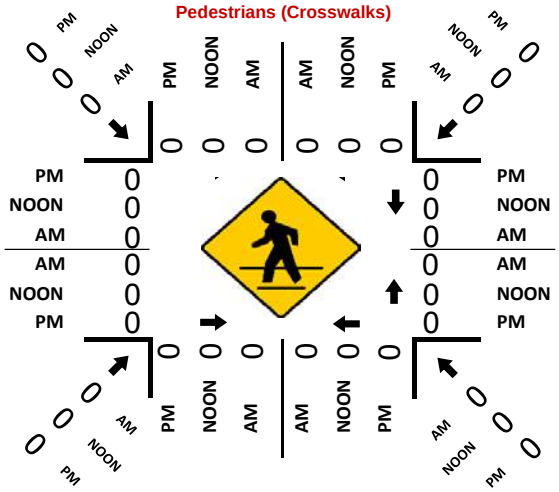
Cars (NOON)



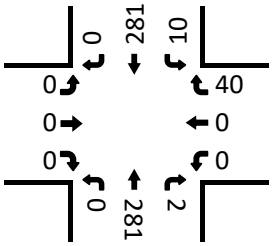
HT (NOON)



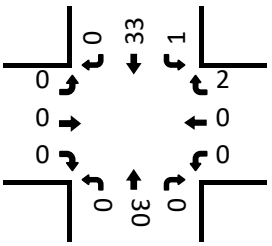
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: 25th Ave & Utica Ave
City: Kettleman
Control: 1-Way Stop (NB)

Project ID: 19-07457-005
Date: 12/6/2019

Total

NS/EW Streets:	25th Ave				25th Ave				Utica Ave				Utica Ave				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	10	0	13	0	0	0	0	0	0	2	0	0	0	3	0	0	28
2:15 PM	5	0	9	0	0	0	0	0	0	3	0	0	8	2	0	0	27
2:30 PM	4	0	14	0	0	0	0	0	0	1	6	0	2	2	0	0	29
2:45 PM	2	0	11	0	0	0	0	0	0	2	0	0	2	2	0	0	19
3:00 PM	6	0	5	0	0	0	0	0	0	1	1	0	0	1	0	0	14
3:15 PM	1	0	5	0	0	0	0	0	0	1	0	0	3	0	0	0	10
3:30 PM	3	0	12	0	0	0	0	0	0	1	1	0	1	0	0	0	18
3:45 PM	8	0	23	0	0	0	0	0	0	2	0	0	1	2	0	0	36
4:00 PM	11	0	17	0	0	0	0	0	0	2	0	0	0	3	0	0	33
4:15 PM	11	0	25	0	0	0	0	0	0	2	3	0	3	2	0	0	46
4:30 PM	4	0	8	0	0	0	0	0	0	0	0	0	1	4	0	0	17
4:45 PM	1	0	2	0	0	0	0	0	0	1	1	0	1	1	0	1	8
5:00 PM	1	0	4	0	0	0	0	0	0	1	1	0	1	3	0	0	11
5:15 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	2	0	0	5
5:30 PM	2	0	3	0	0	0	0	0	0	0	1	0	5	1	0	0	12
5:45 PM	1	0	2	0	0	0	0	0	0	0	0	0	3	0	0	0	6
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	70	0	156	0	0	0	0	0	0	19	14	0	31	28	0	1	319
APPROACH %'s :	30.97%	0.00%	69.03%	0.00%					0.00%	57.58%	42.42%	0.00%	51.67%	46.67%	0.00%	1.67%	
PEAK HR :	03:30 PM - 04:30 PM																TOTAL
PEAK HR VOL :	33	0	77	0	0	0	0	0	0	7	4	0	5	7	0	0	133
PEAK HR FACTOR :	0.750	0.000	0.770	0.000	0.000	0.000	0.000	0.000	0.000	0.875	0.333	0.000	0.417	0.583	0.000	0.000	0.723
	0.764								0.550				0.600				

National Data & Surveying Services

Intersection Turning Movement Count

Location: 25th Ave & Utica Ave
City: Kettleman
Control: 1-Way Stop (NB)

Project ID: 19-07457-005
Date: 12/6/2019

Cars

NS/EW Streets:	25th Ave				25th Ave				Utica Ave				Utica Ave				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	9	0	13	0	0	0	0	0	0	1	0	0	0	3	0	0	26
2:15 PM	5	0	7	0	0	0	0	0	0	2	0	0	8	2	0	0	24
2:30 PM	3	0	10	0	0	0	0	0	0	1	6	0	1	2	0	0	23
2:45 PM	2	0	10	0	0	0	0	0	0	2	0	0	2	2	0	0	18
3:00 PM	6	0	4	0	0	0	0	0	0	1	1	0	0	1	0	0	13
3:15 PM	1	0	4	0	0	0	0	0	0	0	0	0	2	0	0	0	7
3:30 PM	3	0	11	0	0	0	0	0	0	1	1	0	1	0	0	0	17
3:45 PM	8	0	20	0	0	0	0	0	0	2	0	0	0	2	0	0	32
4:00 PM	11	0	14	0	0	0	0	0	0	2	0	0	0	3	0	0	30
4:15 PM	11	0	24	0	0	0	0	0	0	2	2	0	1	2	0	0	42
4:30 PM	4	0	6	0	0	0	0	0	0	0	0	0	1	4	0	0	15
4:45 PM	1	0	1	0	0	0	0	0	0	1	1	0	1	1	0	1	7
5:00 PM	1	0	4	0	0	0	0	0	0	1	1	0	1	2	0	0	10
5:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	2
5:30 PM	1	0	1	0	0	0	0	0	0	0	1	0	3	1	0	0	7
5:45 PM	1	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	5
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	67	0	132	0	0	0	0	0	0	16	13	0	23	26	0	1	278
APPROACH %'s :	33.67%	0.00%	66.33%	0.00%					0.00%	55.17%	44.83%	0.00%	46.00%	52.00%	0.00%	2.00%	
PEAK HR :	03:30 PM - 04:30 PM																TOTAL
PEAK HR VOL :	33	0	69	0	0	0	0	0	0	7	3	0	2	7	0	0	121
PEAK HR FACTOR :	0.75	0.000	0.719	0.000	0.000	0.000	0.000	0.000	0.000	0.875	0.375	0.000	0.500	0.583	0.000	0.000	0.720
	0.729								0.625				0.750				

National Data & Surveying Services

Intersection Turning Movement Count

Location: 25th Ave & Utica Ave
City: Kettleman
Control: 1-Way Stop (NB)

Project ID: 19-07457-005
Date: 12/6/2019

HT

NS/EW Streets:	25th Ave				25th Ave				Utica Ave				Utica Ave				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
2:15 PM	0	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	3
2:30 PM	1	0	4	0	0	0	0	0	0	0	0	0	1	0	0	0	6
2:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:15 PM	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	3
3:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:45 PM	0	0	3	0	0	0	0	0	0	0	0	0	1	0	0	0	4
4:00 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
4:15 PM	0	0	1	0	0	0	0	0	0	0	1	0	2	0	0	0	4
4:30 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
5:15 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	3
5:30 PM	1	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	5
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	3	0	24	0	0	0	0	0	0	3	1	0	8	2	0	0	41
APPROACH %'s :	11.11%	0.00%	88.89%	0.00%					0.00%	75.00%	25.00%	0.00%	80.00%	20.00%	0.00%	0.00%	
PEAK HR :	03:30 PM - 04:30 PM																TOTAL
PEAK HR VOL :	0	0	8	0	0	0	0	0	0	0	1	0	3	0	0	0	12
PEAK HR FACTOR :	0.00	0.000	0.667	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.375	0.000	0.000	0.000	0.750
			0.667								0.250				0.375		

Prepared by National Data & Surveying Services

25th Ave & Utica Ave

Peak Hour Turning Movement Count

ID: 19-07457-005
City: Kettleman

Day: Friday
Date: 12/06/2019

PEAK HOURS	
AM	NONE
NOON	NONE
PM	03:30 PM - 04:30 PM

COUNT PERIODS	
AM	NONE
NOON	NONE
PM	02:00 PM - 06:00 PM

SOUTHBOUND (25th Ave)

AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	0	PM

EASTBOUND (Utica Ave)

AM	NOON	PM	
0	0	40	⇦
0	0	0	↶ 0
0	0	0	↱ 0
0	0	7	→ 1
0	0	4	↷ 0
AM	NOON	PM	

WESTBOUND (Utica Ave)

PM	NOON	AM	
0	0	0	0 ↶
7	0	0	1 ←
5	0	0	0 ↰
0	0	0	0 ↩
84	0	0	⇨
PM	NOON	AM	

CONTROL

1-Way Stop (NB)

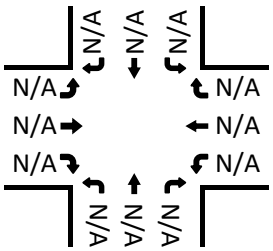
	AM	NOON	PM
TEV	0	0	133
PHF			0.72

NORTHBOUND (25th Ave)

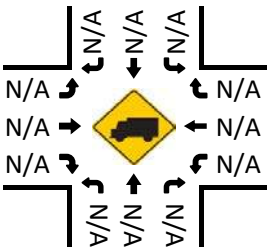
PM	9	0	33	0	77	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

0 0 0 0 — 0 1 0 0

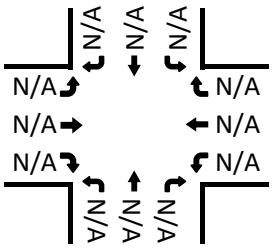
Cars (AM)



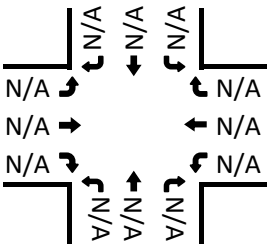
HT (AM)



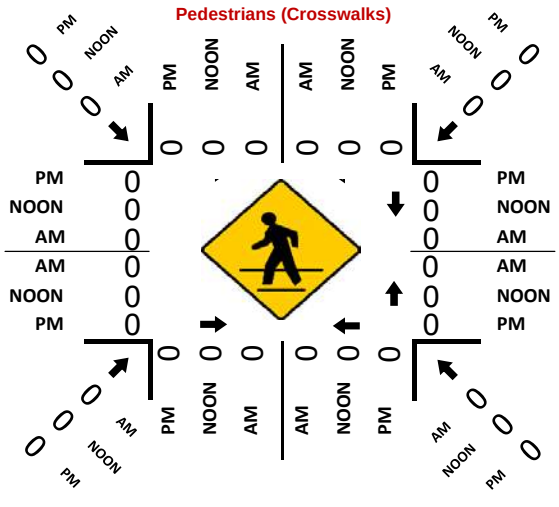
Cars (NOON)



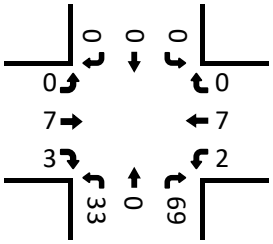
HT (NOON)



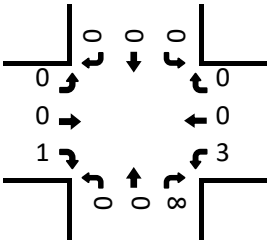
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: I-5 SB Ramps & Utica Ave
City: Kettleman
Control: 1-Way Stop (SB)

Project ID: 19-07457-006
Date: 2019-12-06

Total

NS/EW Streets:	I-5 SB Ramps				I-5 SB Ramps				Utica Ave				Utica Ave				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0.5	0.5	0	0	1	1	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	0	0	0	0	3	1	1	0	0	15	1	0	0	2	0	0	23
2:15 PM	0	0	0	0	3	0	5	0	0	8	1	0	1	4	0	0	22
2:30 PM	0	0	0	0	7	0	3	0	0	16	0	0	1	2	0	0	29
2:45 PM	0	0	0	0	6	1	3	0	0	14	1	0	0	1	0	0	26
3:00 PM	0	0	0	0	15	1	0	0	0	5	0	0	0	1	0	0	22
3:15 PM	0	0	0	0	11	1	2	0	0	4	3	0	0	1	0	0	22
3:30 PM	0	0	0	0	6	1	1	0	0	11	1	0	1	0	0	0	21
3:45 PM	0	0	0	0	5	0	0	0	0	21	4	0	0	2	0	0	32
4:00 PM	0	0	0	0	3	4	1	0	0	17	1	0	0	3	0	0	29
4:15 PM	0	0	0	0	7	1	3	0	0	27	1	0	0	2	0	0	41
4:30 PM	0	0	0	0	9	0	1	0	0	6	1	0	0	4	0	0	21
4:45 PM	0	0	0	0	7	1	3	0	0	5	1	0	1	0	0	0	18
5:00 PM	0	0	0	0	2	2	1	0	0	4	1	0	0	3	0	0	13
5:15 PM	0	0	0	0	9	2	0	0	0	2	0	0	0	2	0	0	15
5:30 PM	0	0	0	0	5	0	4	0	0	4	0	0	0	2	0	0	15
5:45 PM	0	0	0	0	10	0	1	0	0	2	0	0	0	2	0	0	15
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	108	15	29	0	0	161	16	0	4	31	0	0	364
APPROACH %'s :					71.05%	9.87%	19.08%	0.00%	0.00%	90.96%	9.04%	0.00%	11.43%	88.57%	0.00%	0.00%	
PEAK HR :	03:30 PM - 04:30 PM																TOTAL
PEAK HR VOL :	0	0	0	0	21	6	5	0	0	76	7	0	1	7	0	0	123
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.750	0.375	0.417	0.000	0.000	0.704	0.438	0.000	0.250	0.583	0.000	0.000	0.750
						0.727				0.741				0.667			

National Data & Surveying Services

Intersection Turning Movement Count

Location: I-5 SB Ramps & Utica Ave
City: Kettleman
Control: 1-Way Stop (SB)

Project ID: 19-07457-006
Date: 2019-12-06

Cars

NS/EW Streets:	I-5 SB Ramps				I-5 SB Ramps				Utica Ave				Utica Ave				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0.5	0.5	0	0	1	1	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	0	0	0	0	2	0	1	0	0	15	0	0	0	2	0	0	20
2:15 PM	0	0	0	0	3	0	5	0	0	7	0	0	0	4	0	0	19
2:30 PM	0	0	0	0	6	0	2	0	0	11	0	0	0	2	0	0	21
2:45 PM	0	0	0	0	4	0	3	0	0	13	1	0	0	1	0	0	22
3:00 PM	0	0	0	0	14	1	0	0	0	4	0	0	0	1	0	0	20
3:15 PM	0	0	0	0	7	0	1	0	0	3	2	0	0	1	0	0	14
3:30 PM	0	0	0	0	5	1	1	0	0	10	1	0	1	0	0	0	19
3:45 PM	0	0	0	0	5	0	0	0	0	19	3	0	0	2	0	0	29
4:00 PM	0	0	0	0	3	1	0	0	0	14	1	0	0	3	0	0	22
4:15 PM	0	0	0	0	7	0	2	0	0	27	0	0	0	1	0	0	37
4:30 PM	0	0	0	0	9	0	1	0	0	5	0	0	0	4	0	0	19
4:45 PM	0	0	0	0	5	1	3	0	0	4	1	0	0	0	0	0	14
5:00 PM	0	0	0	0	1	0	1	0	0	4	1	0	0	2	0	0	9
5:15 PM	0	0	0	0	8	0	0	0	0	1	0	0	0	1	0	0	10
5:30 PM	0	0	0	0	5	0	2	0	0	1	0	0	0	2	0	0	10
5:45 PM	0	0	0	0	7	0	0	0	0	2	0	0	0	2	0	0	11
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	91	4	22	0	0	140	10	0	1	28	0	0	296
APPROACH %'s :					77.78%	3.42%	18.80%	0.00%	0.00%	93.33%	6.67%	0.00%	3.45%	96.55%	0.00%	0.00%	
PEAK HR :	03:30 PM - 04:30 PM																TOTAL
PEAK HR VOL :	0	0	0	0	20	2	3	0	0	70	5	0	1	6	0	0	107
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.714	0.500	0.375	0.000	0.000	0.648	0.417	0.000	0.250	0.500	0.000	0.000	0.723
						0.694				0.694				0.583			

National Data & Surveying Services

Intersection Turning Movement Count

Location: I-5 SB Ramps & Utica Ave
City: Kettleman
Control: 1-Way Stop (SB)

Project ID: 19-07457-006
Date: 2019-12-06

HT

NS/EW Streets:	I-5 SB Ramps				I-5 SB Ramps				Utica Ave				Utica Ave				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0.5	0.5	0	0	1	1	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0	0	3
2:15 PM	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	3
2:30 PM	0	0	0	0	1	0	1	0	0	5	0	0	1	0	0	0	8
2:45 PM	0	0	0	0	2	1	0	0	0	1	0	0	0	0	0	0	4
3:00 PM	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2
3:15 PM	0	0	0	0	4	1	1	0	0	1	1	0	0	0	0	0	8
3:30 PM	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2
3:45 PM	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3
4:00 PM	0	0	0	0	0	3	1	0	0	3	0	0	0	0	0	0	7
4:15 PM	0	0	0	0	0	1	1	0	0	0	1	0	0	1	0	0	4
4:30 PM	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
4:45 PM	0	0	0	0	2	0	0	0	0	1	0	0	1	0	0	0	4
5:00 PM	0	0	0	0	1	2	0	0	0	0	0	0	0	1	0	0	4
5:15 PM	0	0	0	0	1	2	0	0	0	1	0	0	0	1	0	0	5
5:30 PM	0	0	0	0	0	0	2	0	0	3	0	0	0	0	0	0	5
5:45 PM	0	0	0	0	3	0	1	0	0	0	0	0	0	0	0	0	4
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	17	11	7	0	0	21	6	0	3	3	0	0	68
APPROACH %'s :					48.57%	31.43%	20.00%	0.00%	0.00%	77.78%	22.22%	0.00%	50.00%	50.00%	0.00%	0.00%	
PEAK HR :	03:30 PM - 04:30 PM																TOTAL
PEAK HR VOL :	0	0	0	0	1	4	2	0	0	6	2	0	0	1	0	0	16
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.250	0.333	0.500	0.000	0.000	0.500	0.500	0.000	0.000	0.250	0.000	0.000	0.571
						0.438				0.667				0.250			

Prepared by National Data & Surveying Services

I-5 SB Ramps & Utica Ave

Peak Hour Turning Movement Count

ID: 19-07457-006
City: Kettleman

Day: Friday
Date: 12/06/2019

PEAK HOURS	COUNT PERIODS
AM: NONE	AM: NONE
NOON: NONE	NOON: NONE
PM: 03:30 PM - 04:30 PM	PM: 02:00 PM - 06:00 PM

I-5 SB Ramps — SOUTHBOUND

	U-turn/Left	Thru	Right	U	Departing
AM	0	0	0	0	0
NOON	0	0	0	0	0
PM	5	6	21	0	0
Lanes	0.5	0.5	0	0	

Utica Ave — EASTBOUND

	AM	NOON	PM	Lanes
Departing	0	0	12	
U-turn	0	0	0	0
Left	0	0	0	0
Thru	0	0	76	1
Right	0	0	7	1

Utica Ave — WESTBOUND

	PM	NOON	AM	Lanes
Right	0	0	0	0
Thru	7	0	0	1
Left	1	0	0	0
U-turn	0	0	0	0
Departing	97	0	0	

I-5 SB Ramps — NORTHBOUND

	Departing	U-turn	Left	Thru	Right
Lanes		0	0	0	0
PM	14	0	0	0	0
NOON	0	0	0	0	0
AM	0	0	0	0	0

CONTROL

1-Way Stop (SB)

	AM	NOON	PM
TEV	0	0	123
PHF			0.75

Cars (AM)

All movements: N/A

Cars (NOON)

All movements: N/A

Cars (PM)

Approach	U-turn	Left	Thru	Right
Southbound		3	2	20
Eastbound		0	70	5
Westbound		0	6	1
Northbound		0	0	0

HT (AM)

All movements: N/A

HT (NOON)

All movements: N/A

HT (PM)

Approach	Left	Thru	Right
Southbound	2	4	1
Eastbound	0	6	2
Westbound	0	1	0
Northbound	0	0	0

Pedestrians (Crosswalks)

Crosswalk	AM	NOON	PM
North	0	0	0
North	0	0	0
West	0	0	0
West	0	0	0
East	0	0	0
East	0	0	0
South	0	0	0
South	0	0	0
Diagonals (all corners)	0	0	0

National Data & Surveying Services

Intersection Turning Movement Count

Location: I-5 NB Ramps & Utica Ave
City: Kettleman
Control: 1-Way Stop (NB)

Project ID: 19-07457-007
Date: 12/6/2019

Total

NS/EW Streets:	I-5 NB Ramps				I-5 NB Ramps				Utica Ave				Utica Ave				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0.5	0.5	0	0	0	0	0	0	1	0	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	1	1	0	0	0	0	0	0	13	4	0	0	0	1	10	0	30
2:15 PM	0	1	2	0	0	0	0	0	8	4	0	0	0	5	7	0	27
2:30 PM	2	3	1	0	0	0	0	0	13	8	0	0	0	1	12	0	40
2:45 PM	0	2	1	0	0	0	0	0	15	8	0	0	0	1	5	0	32
3:00 PM	0	0	2	0	0	0	0	0	1	16	0	0	0	0	3	0	22
3:15 PM	1	0	2	0	0	0	0	0	7	11	0	0	0	1	5	0	27
3:30 PM	0	2	2	0	0	0	0	0	8	7	0	0	0	1	6	0	26
3:45 PM	0	1	1	0	0	0	0	0	15	9	0	0	0	2	4	0	32
4:00 PM	0	0	3	0	0	0	0	0	16	7	0	0	0	3	14	0	43
4:15 PM	0	1	0	0	0	0	0	0	20	14	0	0	0	2	12	0	49
4:30 PM	1	0	1	0	0	0	0	0	7	8	0	0	0	3	13	0	33
4:45 PM	1	0	3	0	0	0	0	0	2	8	0	0	0	0	10	0	24
5:00 PM	1	2	0	0	0	0	0	0	5	4	0	0	0	1	8	0	21
5:15 PM	2	0	0	0	0	0	0	0	2	8	0	0	0	1	9	0	22
5:30 PM	1	1	1	0	0	0	0	0	4	6	0	0	0	1	6	0	20
5:45 PM	0	1	0	0	0	0	0	0	2	10	0	0	0	2	6	0	21
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	10	15	19	0	0	0	0	0	138	132	0	0	0	25	130	0	469
APPROACH %'s :	22.73%	34.09%	43.18%	0.00%					51.11%	48.89%	0.00%	0.00%	0.00%	16.13%	83.87%	0.00%	
PEAK HR :	03:45 PM - 04:45 PM																TOTAL
PEAK HR VOL :	1	2	5	0	0	0	0	0	58	38	0	0	0	10	43	0	157
PEAK HR FACTOR :	0.250	0.500	0.417	0.000	0.000	0.000	0.000	0.000	0.725	0.679	0.000	0.000	0.000	0.833	0.768	0.000	0.801
	0.667								0.706				0.779				

National Data & Surveying Services

Intersection Turning Movement Count

Location: I-5 NB Ramps & Utica Ave
City: Kettleman
Control: 1-Way Stop (NB)

Project ID: 19-07457-007
Date: 12/6/2019

Cars

NS/EW Streets:	I-5 NB Ramps				I-5 NB Ramps				Utica Ave				Utica Ave				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0.5	0.5	0	0	0	0	0	0	1	0	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	1	1	0	0	0	0	0	0	13	3	0	0	0	1	8	0	27
2:15 PM	0	1	2	0	0	0	0	0	7	3	0	0	0	4	7	0	24
2:30 PM	1	2	1	0	0	0	0	0	8	8	0	0	0	1	10	0	31
2:45 PM	0	0	1	0	0	0	0	0	14	5	0	0	0	1	5	0	26
3:00 PM	0	0	1	0	0	0	0	0	0	16	0	0	0	0	3	0	20
3:15 PM	1	0	2	0	0	0	0	0	6	7	0	0	0	1	3	0	20
3:30 PM	0	0	2	0	0	0	0	0	8	6	0	0	0	1	6	0	23
3:45 PM	0	1	1	0	0	0	0	0	13	9	0	0	0	2	4	0	30
4:00 PM	0	0	3	0	0	0	0	0	13	7	0	0	0	3	13	0	39
4:15 PM	0	0	0	0	0	0	0	0	19	14	0	0	0	1	12	0	46
4:30 PM	1	0	1	0	0	0	0	0	6	8	0	0	0	3	13	0	32
4:45 PM	0	0	3	0	0	0	0	0	1	8	0	0	0	0	9	0	21
5:00 PM	1	2	0	0	0	0	0	0	4	2	0	0	0	1	8	0	18
5:15 PM	0	0	0	0	0	0	0	0	1	8	0	0	0	1	9	0	19
5:30 PM	1	0	1	0	0	0	0	0	1	5	0	0	0	1	6	0	15
5:45 PM	0	1	0	0	0	0	0	0	2	7	0	0	0	2	6	0	18
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	6	8	18	0	0	0	0	0	116	116	0	0	0	23	122	0	409
APPROACH %'s :	18.75%	25.00%	56.25%	0.00%					50.00%	50.00%	0.00%	0.00%	0.00%	15.86%	84.14%	0.00%	
PEAK HR :	03:45 PM - 04:45 PM																TOTAL
PEAK HR VOL :	1	1	5	0	0	0	0	0	51	38	0	0	0	9	42	0	147
PEAK HR FACTOR :	0.25	0.250	0.417	0.000	0.000	0.000	0.000	0.000	0.671	0.679	0.000	0.000	0.000	0.750	0.808	0.000	0.799
		0.583								0.674				0.797			

National Data & Surveying Services

Intersection Turning Movement Count

Location: I-5 NB Ramps & Utica Ave
City: Kettleman
Control: 1-Way Stop (NB)

Project ID: 19-07457-007
Date: 12/6/2019

HT

NS/EW Streets:	I-5 NB Ramps				I-5 NB Ramps				Utica Ave				Utica Ave				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0.5	0.5	0	0	0	0	0	0	1	0	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	3
2:15 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	3
2:30 PM	1	1	0	0	0	0	0	0	5	0	0	0	0	0	2	0	9
2:45 PM	0	2	0	0	0	0	0	0	1	3	0	0	0	0	0	0	6
3:00 PM	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	2
3:15 PM	0	0	0	0	0	0	0	0	1	4	0	0	0	0	2	0	7
3:30 PM	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3
3:45 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
4:00 PM	0	0	0	0	0	0	0	0	3	0	0	0	0	0	1	0	4
4:15 PM	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	3
4:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
4:45 PM	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	3
5:00 PM	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	3
5:15 PM	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3
5:30 PM	0	1	0	0	0	0	0	0	3	1	0	0	0	0	0	0	5
5:45 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	4	7	1	0	0	0	0	0	22	16	0	0	0	2	8	0	60
APPROACH %'s :	33.33%	58.33%	8.33%	0.00%					57.89%	42.11%	0.00%	0.00%	0.00%	20.00%	80.00%	0.00%	
PEAK HR :	03:45 PM - 04:45 PM																TOTAL
PEAK HR VOL :	0	1	0	0	0	0	0	0	7	0	0	0	0	1	1	0	10
PEAK HR FACTOR :	0.00	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.583	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.625
		0.250								0.583				0.500			

Prepared by National Data & Surveying Services

I-5 NB Ramps & Utica Ave

Peak Hour Turning Movement Count

ID: 19-07457-007
City: Kettleman

Day: Friday
Date: 12/06/2019

PEAK HOURS	COUNT PERIODS
NONE	NONE
NONE	NONE
03:45 PM - 04:45 PM	02:00 PM - 06:00 PM

I-5 NB Ramps — SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	103	PM

EASTBOUND (Utica Ave)

AM	NOON	PM		
0	0	11	⇦	
0	0	0	↶	0
0	0	58	↱	0
0	0	38	→	1
0	0	0	↷	0
AM	NOON	PM		

WESTBOUND (Utica Ave)

PM	NOON	AM		
43	0	0	↰	1
10	0	0	←	1
0	0	0	↰	0
0	0	0	↶	0
43	0	0	⇨	
PM	NOON	AM		

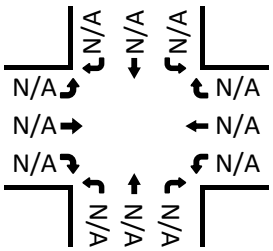
CONTROL: 1-Way Stop (NB)

	AM	NOON	PM
TEV	0	0	157
PHF			0.80

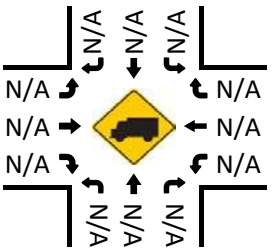
I-5 NB Ramps — NORTHBOUND

PM	0	0	1	2	5	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

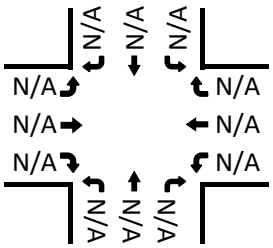
Cars (AM)



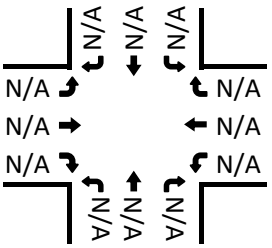
HT (AM)



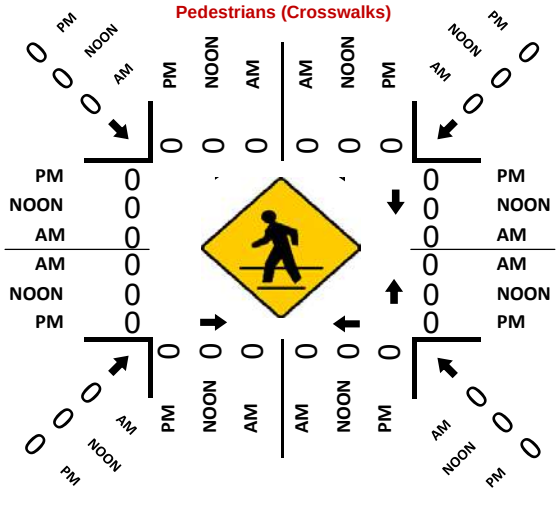
Cars (NOON)



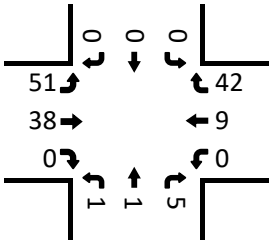
HT (NOON)



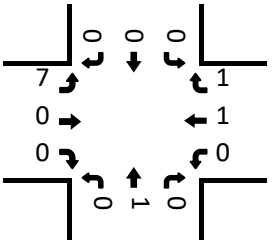
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Frontage Rd & Utica Ave
City: Kettleman
Control: 1-Way Stop (SB)

Project ID: 19-07457-008
Date: 12/6/2019

Total

NS/EW Streets:	Frontage Rd				Frontage Rd				Utica Ave				Utica Ave				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	10	0	0	14
2:15 PM	0	0	0	0	0	0	0	0	1	5	0	0	0	13	0	0	19
2:30 PM	0	0	0	0	0	0	0	0	0	11	0	0	0	13	0	0	24
2:45 PM	0	0	0	0	0	0	1	0	0	7	0	0	0	5	0	0	13
3:00 PM	0	0	0	0	0	0	0	0	0	19	0	0	0	5	0	0	24
3:15 PM	0	0	0	0	0	0	0	0	1	10	0	0	0	4	0	0	15
3:30 PM	0	0	0	0	0	0	1	0	1	7	0	0	0	6	0	0	15
3:45 PM	0	0	0	0	0	0	1	0	0	11	0	0	0	5	0	0	17
4:00 PM	0	0	0	0	0	0	2	0	0	10	0	0	0	15	0	0	27
4:15 PM	0	0	0	0	0	0	0	0	0	12	0	0	0	13	0	0	25
4:30 PM	0	0	0	0	0	0	0	0	0	12	0	0	0	17	0	0	29
4:45 PM	0	0	0	0	0	0	0	0	0	10	0	0	0	9	0	0	19
5:00 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	10	0	0	14
5:15 PM	0	0	0	0	0	0	0	0	0	9	0	0	0	11	0	0	20
5:30 PM	0	0	0	0	0	0	0	0	0	6	0	0	0	6	0	0	12
5:45 PM	0	0	0	0	0	0	0	0	0	10	0	0	0	7	0	0	17
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	5	0	3	147	0	0	0	149	0	0	304
APPROACH %'s :					0.00%	0.00%	100.00%	0.00%	2.00%	98.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	2	0	0	44	0	0	0	54	0	0	100
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.917	0.000	0.000	0.000	0.794	0.000	0.000	0.862
							0.250				0.917				0.794		

National Data & Surveying Services

Intersection Turning Movement Count

Location: Frontage Rd & Utica Ave
City: Kettleman
Control: 1-Way Stop (SB)

Project ID: 19-07457-008
Date: 12/6/2019

Cars

NS/EW Streets:	Frontage Rd				Frontage Rd				Utica Ave				Utica Ave				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	8	0	0	11
2:15 PM	0	0	0	0	0	0	0	0	0	5	0	0	0	12	0	0	17
2:30 PM	0	0	0	0	0	0	0	0	0	11	0	0	0	11	0	0	22
2:45 PM	0	0	0	0	0	0	1	0	0	4	0	0	0	5	0	0	10
3:00 PM	0	0	0	0	0	0	0	0	0	18	0	0	0	4	0	0	22
3:15 PM	0	0	0	0	0	0	0	0	1	6	0	0	0	3	0	0	10
3:30 PM	0	0	0	0	0	0	1	0	1	6	0	0	0	6	0	0	14
3:45 PM	0	0	0	0	0	0	1	0	0	11	0	0	0	5	0	0	17
4:00 PM	0	0	0	0	0	0	2	0	0	10	0	0	0	14	0	0	26
4:15 PM	0	0	0	0	0	0	0	0	0	12	0	0	0	12	0	0	24
4:30 PM	0	0	0	0	0	0	0	0	0	12	0	0	0	17	0	0	29
4:45 PM	0	0	0	0	0	0	0	0	0	9	0	0	0	8	0	0	17
5:00 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	10	0	0	13
5:15 PM	0	0	0	0	0	0	0	0	0	8	0	0	0	11	0	0	19
5:30 PM	0	0	0	0	0	0	0	0	0	6	0	0	0	6	0	0	12
5:45 PM	0	0	0	0	0	0	0	0	0	7	0	0	0	7	0	0	14
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	5	0	2	131	0	0	0	139	0	0	277
APPROACH %'s :					0.00%	0.00%	100.00%	0.00%	1.50%	98.50%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	2	0	0	43	0	0	0	51	0	0	96
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.896	0.000	0.000	0.000	0.750	0.000	0.000	0.828
							0.250			0.896				0.750			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Frontage Rd & Utica Ave
City: Kettleman
Control: 1-Way Stop (SB)

Project ID: 19-07457-008
Date: 12/6/2019

HT

NS/EW Streets:	Frontage Rd				Frontage Rd				Utica Ave				Utica Ave				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
2:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	3
2:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	2
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
2:45 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
3:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
3:15 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	1	0	0	5
3:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	1	16	0	0	0	10	0	0	27
APPROACH %'s :									5.88%	94.12%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	4
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.750	0.000	0.000	0.500
										0.250				0.750			

Prepared by National Data & Surveying Services

Frontage Rd & Utica Ave

Peak Hour Turning Movement Count

ID: 19-07457-008
City: Kettleman

Day: Friday
Date: 12/06/2019

	PEAK HOURS	COUNT PERIODS
AM	NONE	NONE
NOON	NONE	NONE
PM	04:00 PM - 05:00 PM	02:00 PM - 06:00 PM

Frontage Rd — SOUTHBOUND

	Right	Through	Left	U-Turn	Departing
AM	0	0	0	0	0
NOON	0	0	0	0	0
PM	2	0	0	0	0
HT (peak)	0	1	0	0	

Utica Ave — EASTBOUND

	AM	NOON	PM	HT (peak)
Departing	0	0	56	
U-Turn	0	0	0	0
Left	0	0	0	0
Through	0	0	44	1
Right	0	0	0	0

Utica Ave — WESTBOUND

	PM	NOON	AM	HT (peak)
U-Turn	0	0	0	0
Through	54	0	0	1
Left	0	0	0	0
U-Turn	0	0	0	0
Departing	44	0	0	

Frontage Rd — NORTHBOUND

	Departing	U-Turn	Left	Through	Right
PM	0	0	0	0	0
NOON	0	0	0	0	0
AM	0	0	0	0	0
HT (peak)		0	0	0	0

CONTROL

1-Way Stop (SB)

	AM	NOON	PM
TEV	0	0	100
PHF			0.86

Cars (AM)

All movements: N/A

Cars (NOON)

All movements: N/A

Cars (PM)

	U-Turn	Left	Through	Right
Southbound	0	0	0	2
Eastbound		0	43	0
Westbound		0	51	0
Northbound	0	0	0	0

HT (AM)

All movements: N/A

HT (NOON)

All movements: N/A

HT (PM)

	U-Turn	Left	Through	Right
Southbound	0	0	0	0
Eastbound		0	1	0
Westbound		0	3	0
Northbound	0	0	0	0

Pedestrians (Crosswalks)

Crosswalk	AM	NOON	PM
North	0	0	0
South	0	0	0
East	0	0	0
West	0	0	0
Diagonals	0	0	0

APPENDIX C: INTERSECTION VOLUMES, DELAY, AND LOS CALCULATION OUTPUTS, EXISTING CONDITIONS

Intersection Level Of Service Report
Intersection 1: South Bound I-5 at SR-41 Ramps

Control Type:	Signalized	Delay (sec / veh):	13.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.111

Intersection Setup

Name													
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00				30.00			30.00	
Grade [%]		0.00			0.00				0.00			0.00	
Curb Present		No			No				No				
Crosswalk		Yes			Yes				Yes			Yes	

Volumes

Name													
Base Volume Input [veh/h]	0	102	5	2	67	146	0	69	2	18	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	23.00	23.00	23.00	23.00	23.00	2.00	23.00	23.00	23.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	102	5	2	67	146	0	69	2	18	0	0	0
Peak Hour Factor	1.0000	0.9000	0.9000	0.900	0.900	0.900	1.000	0.9000	0.9000	0.9000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	28	1	1	19	41	0	19	1	5	0	0	0
Total Analysis Volume [veh/h]	0	113	6	2	74	162	0	77	2	20	0	0	0
Presence of On-Street Parking	No		No	No			No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0				0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0				0			0	
v_co, Outbound Pedestrian Volume crossing		0			0				0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0				0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0				0			0	
Bicycle Volume [bicycles/h]		0			0				0			0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	4	0	0	0	0
Auxiliary Signal Groups													
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	19	0	0	14	33	0	0	27	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	6	0	0	0	6	0	0	18	0	0	0	0
Rest In Walk		No				No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No			No	No			No				
Maximum Recall		No			No	No			No				
Pedestrian Recall		No			No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	
C, Cycle Length [s]	60	60	60	60	60	60	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	40	40	4	48	4	4	
g / C, Green / Cycle	0.67	0.67	0.06	0.80	0.07	0.07	
(v / s)_i Volume / Saturation Flow Rate	0.04	0.04	0.03	0.06	0.04	0.04	
s, saturation flow rate [veh/h]	1399	1375	2588	2664	1333	1273	
c, Capacity [veh/h]	937	920	160	2125	92	88	
d1, Uniform Delay [s]	3.44	3.44	27.27	1.31	27.07	27.10	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.13	0.14	2.17	0.07	4.84	5.38	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.06	0.06	0.47	0.08	0.54	0.56	
d, Delay for Lane Group [s/veh]	3.57	3.57	29.44	1.38	31.92	32.49	
Lane Group LOS	A	A	C	A	C	C	
Critical Lane Group	No	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	0.20	0.20	0.55	0.06	0.78	0.78	
50th-Percentile Queue Length [ft/ln]	4.90	4.92	13.72	1.55	19.53	19.45	
95th-Percentile Queue Length [veh/ln]	0.35	0.35	0.99	0.11	1.41	1.40	
95th-Percentile Queue Length [ft/ln]	8.82	8.85	24.70	2.79	35.16	35.02	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	3.57	3.57	29.44	29.44	1.38	0.00	32.12	32.49	32.49	0.00	0.00	0.00
Movement LOS		A	A	C	C	A		C	C	C			
d_A, Approach Delay [s/veh]		3.57			10.34				32.20			0.00	
Approach LOS		A			B				C			A	
d_I, Intersection Delay [s/veh]	13.32												
Intersection LOS	B												
Intersection V/C	0.111												

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	21.68
l_p,int, Pedestrian LOS Score for Intersection	2.185	2.503	1.953	1.735
Crosswalk LOS	B	B	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	500	967	767	0
d_b, Bicycle Delay [s]	16.88	8.01	11.41	30.00
l_b,int, Bicycle LOS Score for Intersection	1.658	1.695	1.723	4.132
Bicycle LOS	A	A	A	D

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: North Bound I-5 at SR-41 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	13.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	24	149	0	0	186	63	0	0	0	27	2	85
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	23.00	23.00	23.00	23.00	23.00	23.00	2.00	2.00	2.00	23.00	23.00	23.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	24	149	0	0	186	63	0	0	0	27	2	85
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	1.0000	1.0000	1.0000	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	40	0	0	51	17	0	0	0	7	1	23
Total Analysis Volume [veh/h]	26	162	0	0	202	68	0	0	0	29	2	92
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.10
d_M, Delay for Movement [s/veh]	8.20	0.00	0.00	7.83	0.00	0.00	0.00	0.00	0.00	11.90	13.91	9.50
Movement LOS	A	A	A	A	A	A				B	B	A
95th-Percentile Queue Length [veh/ln]	0.07	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.36	0.36
95th-Percentile Queue Length [ft/ln]	1.73	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.16	8.96	8.96
d_A, Approach Delay [s/veh]	1.13			0.00			0.00			10.14		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	2.51											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 3: Bernard Drive at SR-41

Control Type:	Signalized	Delay (sec / veh):	29.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.277

Intersection Setup

Name														
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				No			No		

Volumes

Name														
Base Volume Input [veh/h]	39	39	115	21	0	43	132	8	5	10	38	49	5	18
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	39	39	115	21	0	43	132	8	5	10	38	49	5	18
Peak Hour Factor	0.930	0.930	0.930	0.930	0.930	0.930	0.930	0.930	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	10	31	6	0	12	35	2	1	3	10	13	1	5
Total Analysis Volume [veh/h]	42	42	124	23	0	46	142	9	5	11	41	53	5	19
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups														
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	30	0	0	30	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	19	19	0	0	15	15	0	0	15	0	0	21	0
Vehicle Extension [s]	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	5	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	10	0	0	0	10	0	0	10	0	0	10	0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	43	43	3	40	4	5
g / C, Green / Cycle	0.07	0.61	0.61	0.04	0.58	0.05	0.07
(v / s)_i Volume / Saturation Flow Rate	0.06	0.05	0.02	0.03	0.11	0.05	0.06
s, saturation flow rate [veh/h]	1333	2664	1189	1333	1385	1237	1298
c, Capacity [veh/h]	100	1618	722	57	797	63	91
d1, Uniform Delay [s]	31.97	5.66	5.50	33.19	7.08	33.05	32.17
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	16.83	0.09	0.08	21.83	0.53	33.21	18.55
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.08	0.03	0.80	0.19	0.91	0.85
d, Delay for Lane Group [s/veh]	48.81	5.75	5.59	55.03	7.60	66.26	50.73
Lane Group LOS	D	A	A	E	A	E	D
Critical Lane Group	Yes	No	No	No	Yes	Yes	Yes
50th-Percentile Queue Length [veh/ln]	1.82	0.33	0.13	1.10	1.02	1.51	1.71
50th-Percentile Queue Length [ft/ln]	45.53	8.20	3.18	27.45	25.56	37.79	42.84
95th-Percentile Queue Length [veh/ln]	3.28	0.59	0.23	1.98	1.84	2.72	3.08
95th-Percentile Queue Length [ft/ln]	81.95	14.76	5.73	49.41	46.01	68.02	77.12

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.81	48.81	5.75	5.59	55.03	55.03	7.60	7.60	66.26	66.26	66.26	50.73	50.73	50.73
Movement LOS	D	D	A	A	E	E	A	A	E	E	E	D	D	D
d_A, Approach Delay [s/veh]	21.39				18.68				66.26			50.73		
Approach LOS	C				B				E			D		
d_I, Intersection Delay [s/veh]	29.01													
Intersection LOS	C													
Intersection V/C	0.277													

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	26.58	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.204	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	429	314	314	486
d_b, Bicycle Delay [s]	21.61	24.86	24.86	20.06
l_b,int, Bicycle LOS Score for Intersection	1.716	1.809	1.654	1.687
Bicycle LOS	A	A	A	A

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: 25th Avenue at SR-41

Control Type:	Two-way stop	Delay (sec / veh):	10.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.018

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	113	4	8	181	11	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	113	4	8	181	11	20
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	1	2	48	3	5
Total Analysis Volume [veh/h]	120	4	9	193	12	21
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.02	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	7.48	0.00	10.58	8.96
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.02	0.06	0.07
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.46	0.46	1.39	1.73
d_A, Approach Delay [s/veh]	0.00		0.33		9.55	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.07					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Utica Avenue at South Bound 25th Street

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	4	12	14	0	6	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	23.00	23.00	23.00	23.00	23.00	23.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	12	14	0	6	2
Peak Hour Factor	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	5	5	0	2	1
Total Analysis Volume [veh/h]	6	18	22	0	9	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.02	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	9.04	8.70	0.00	0.00	7.47	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.08	0.08	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	1.89	1.89	0.00	0.00	0.46	0.46
d_A, Approach Delay [s/veh]	8.79		0.00		5.60	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.79					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Utica Avenue at South Bound I-5 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	9.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Crosswalk		No			No			No			No	

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	15	3	4	0	12	15	0	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	23.00	23.00	23.00	2.00	23.00	23.00	23.00	23.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	15	3	4	0	12	15	0	4	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.7400	0.7400	0.7400	1.0000	0.7400	0.7400	0.7400	0.7400	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	5	1	1	0	4	5	0	1	0
Total Analysis Volume [veh/h]	0	0	0	20	4	5	0	16	20	0	5	0
Pedestrian Volume [ped/h]		0			0			0			0	

Intersection Settings

Priority Scheme	Stop			Stop			Free			Free		
Flared Lane				No								
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance				No								
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	9.01	9.56	8.66	0.00	0.00	0.00	7.48	0.00	0.00
Movement LOS				A	A	A		A	A	A	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.10	0.10	0.10	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	2.43	2.43	2.43	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			9.03			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.74											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 7: Utica Avenue at North Bound I-5 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	1	8	4	0	0	0	9	22	0	0	3	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	23.00	23.00	23.00	2.00	2.00	2.00	23.00	23.00	2.00	2.00	23.00	23.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	8	4	0	0	0	9	22	0	0	3	23
Peak Hour Factor	0.8000	0.8000	0.8000	1.0000	1.0000	1.0000	0.8000	0.8000	1.0000	1.0000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	3	1	0	0	0	3	7	0	0	1	7
Total Analysis Volume [veh/h]	1	10	5	0	0	0	11	28	0	0	4	29
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No			
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.23	9.80	8.72	0.00	0.00	0.00	7.50	0.00	0.00	0.00	0.00	0.00
Movement LOS	A	A	A				A	A			A	A
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.06	0.00	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.48	1.48	1.48	0.00	0.00	0.00	0.57	0.57	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.43			0.00			2.11			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.65											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 8: Utica Avenue at Frontage Road

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	23	24	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	23.00	23.00	23.00	23.00	23.00	23.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	23	24	0
Peak Hour Factor	0.7700	0.7700	0.7700	0.7700	0.7700	0.7700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	7	8	0
Total Analysis Volume [veh/h]	0	0	0	30	31	0
Pedestrian Volume [ped/h]	0		0		0	

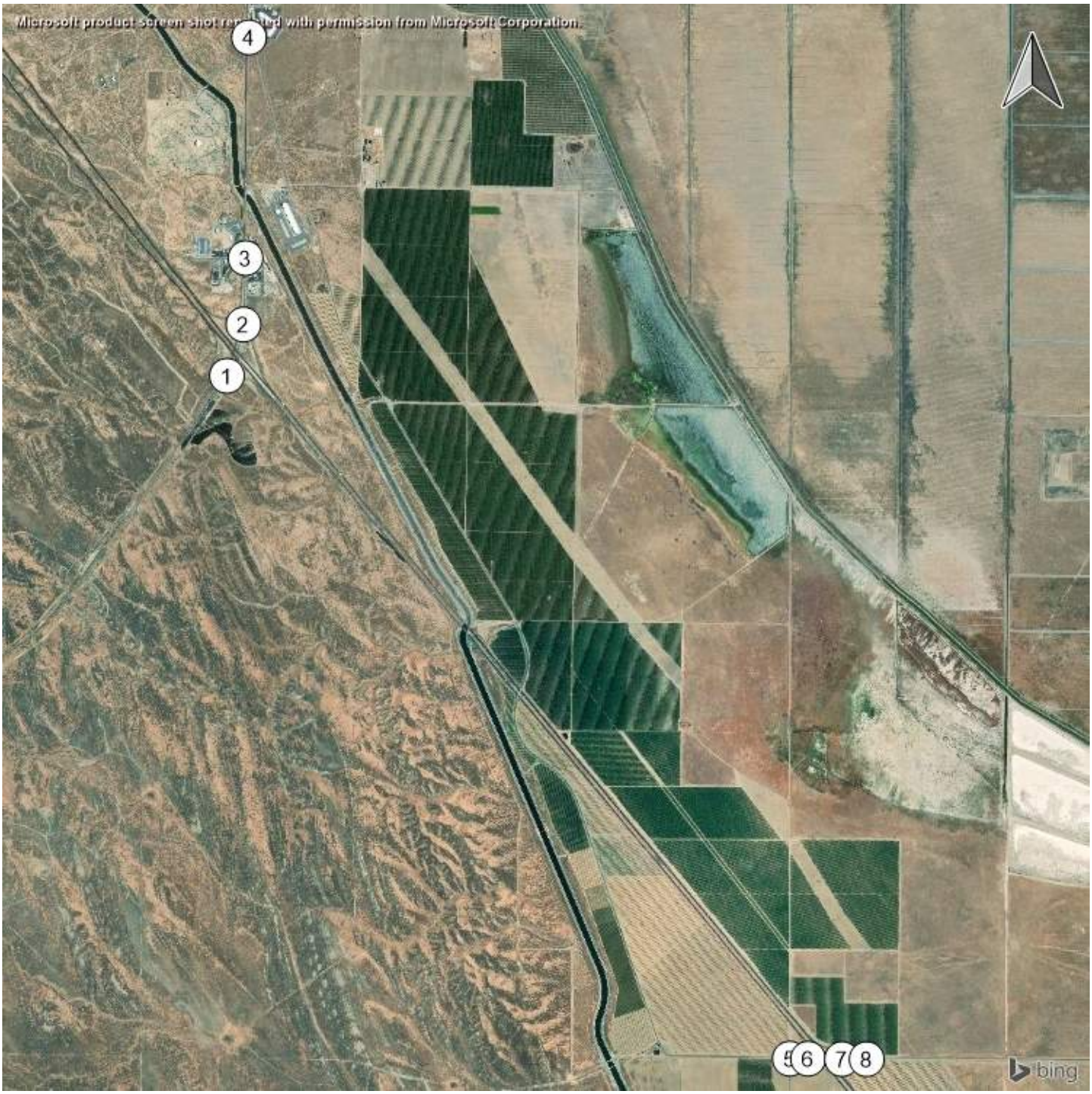
Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

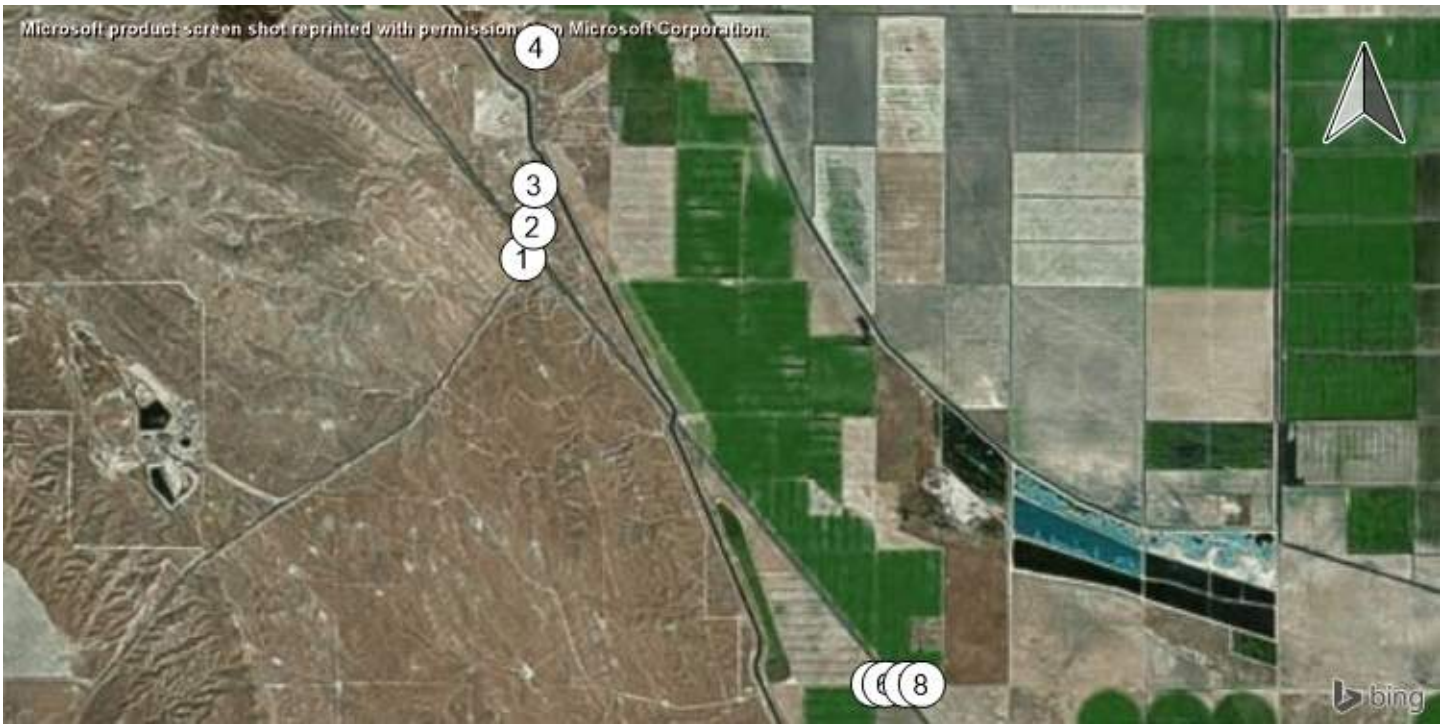
Movement, Approach, & Intersection Results

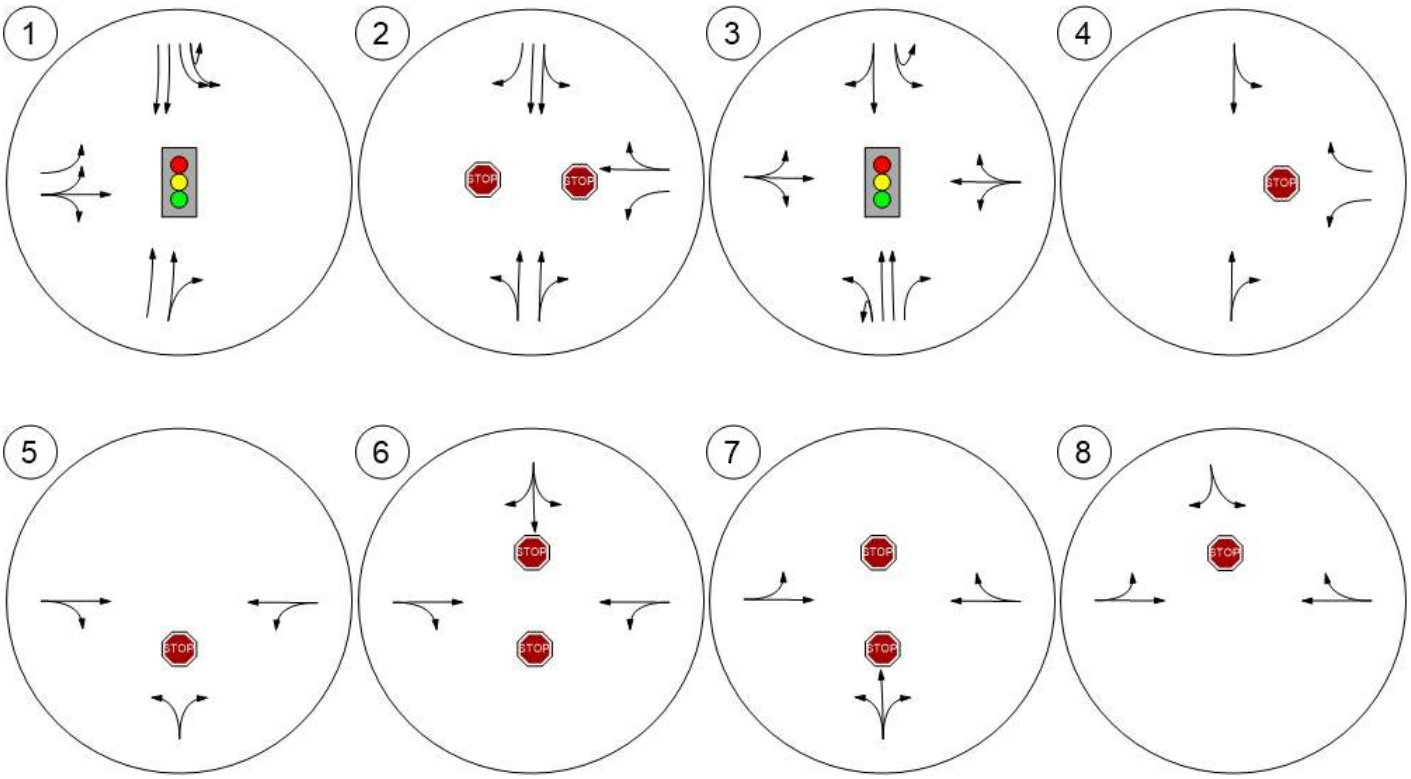
V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.02	8.65	7.47	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.84		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Study Intersections

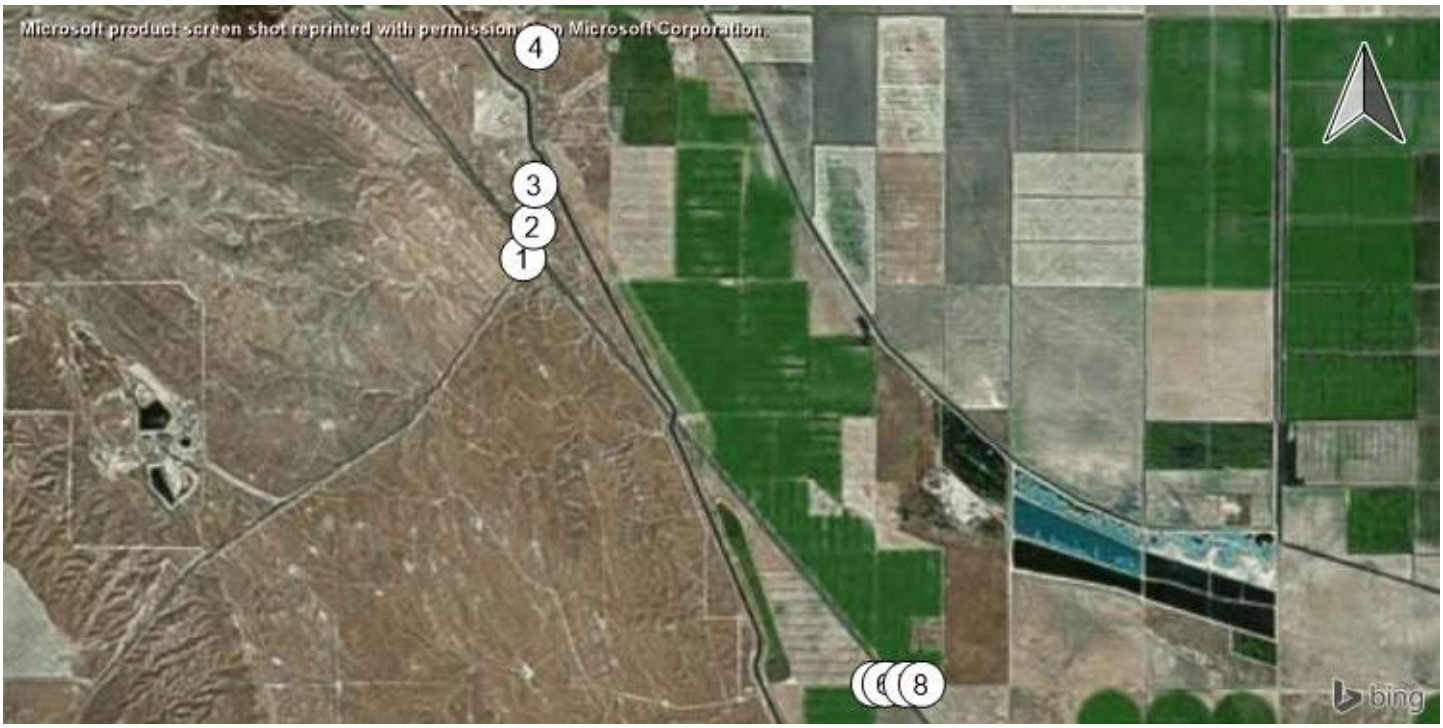


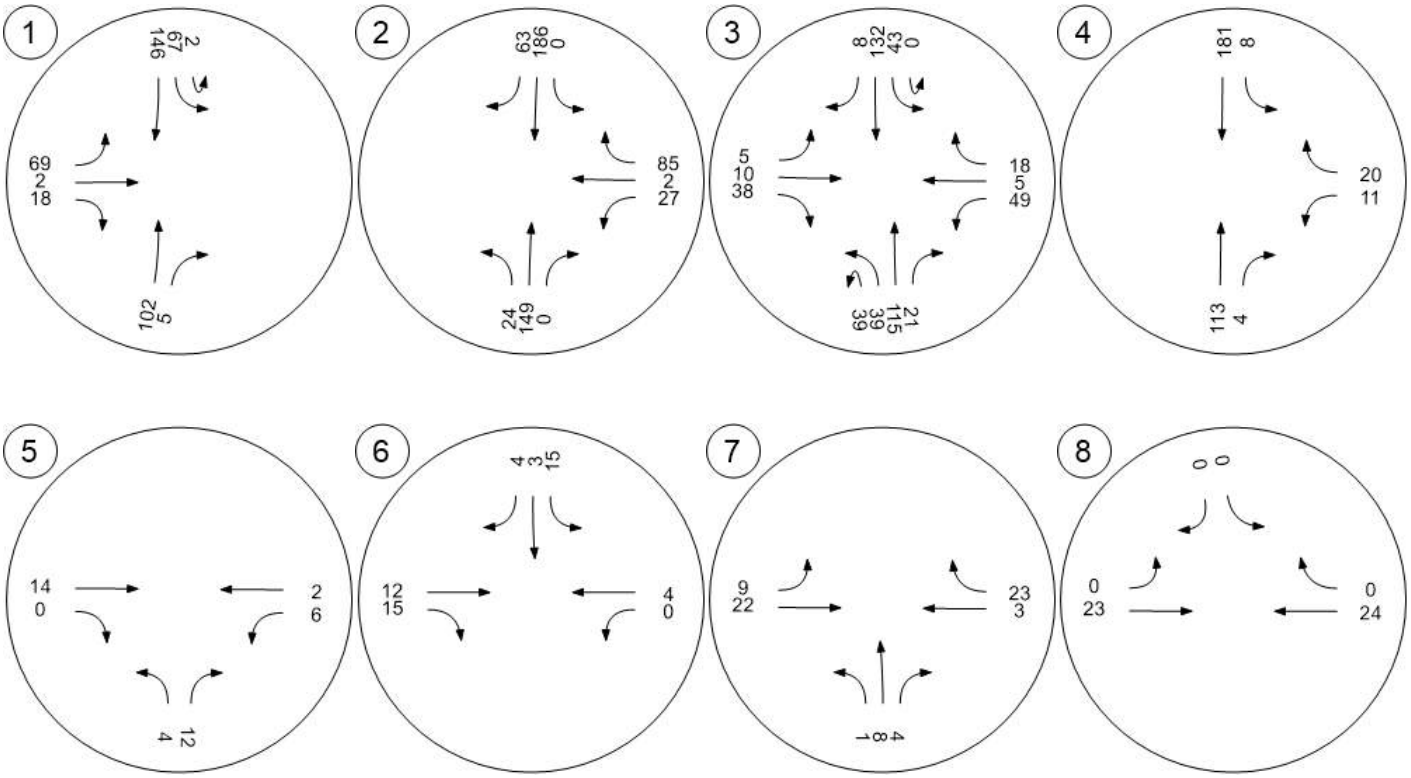
Lane Configuration and Traffic Control





Traffic Volume - Future Total Volume

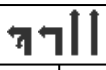




Intersection Level Of Service Report
Intersection 1: South Bound I-5 at SR-41 Ramps

Control Type:	Signalized	Delay (sec / veh):	13.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.219

Intersection Setup

Name													
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No					
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name													
Base Volume Input [veh/h]	0	251	38	4	145	294	0	98	7	63	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	11.00	11.00	11.00	11.00	11.00	2.00	11.00	11.00	11.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	251	38	4	145	294	0	98	7	63	0	0	0
Peak Hour Factor	1.0000	0.9500	0.9500	0.950	0.950	0.950	1.000	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	66	10	1	38	77	0	26	2	17	0	0	0
Total Analysis Volume [veh/h]	0	264	40	4	153	309	0	103	7	66	0	0	0
Presence of On-Street Parking	No		No	No			No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0				0			0		
v_co, Outbound Pedestrian Volume crossing	0			0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0				0			0		
Bicycle Volume [bicycles/h]	0			0				0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	4	0	0	0	0
Auxiliary Signal Groups													
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	15	0	0	16	31	0	0	29	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	6	0	0	0	6	0	0	18	0	0	0	0
Rest In Walk		No				No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No			No	No			No				
Maximum Recall		No			No	No			No				
Pedestrian Recall		No			No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	
C, Cycle Length [s]	60	60	60	60	60	60	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	37	37	5	46	6	6	
g / C, Green / Cycle	0.62	0.62	0.08	0.77	0.10	0.10	
(v / s)_i Volume / Saturation Flow Rate	0.10	0.10	0.05	0.10	0.06	0.06	
s, saturation flow rate [veh/h]	1561	1492	2888	2973	1487	1366	
c, Capacity [veh/h]	968	925	241	2290	143	132	
d1, Uniform Delay [s]	4.80	4.82	26.64	1.77	26.08	26.14	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.35	0.38	2.94	0.12	4.50	5.33	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.16	0.16	0.65	0.13	0.63	0.65	
d, Delay for Lane Group [s/veh]	5.15	5.21	29.58	1.89	30.58	31.47	
Lane Group LOS	A	A	C	A	C	C	
Critical Lane Group	No	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	0.67	0.68	1.13	0.20	1.35	1.31	
50th-Percentile Queue Length [ft/ln]	16.76	16.96	28.19	4.98	33.78	32.74	
95th-Percentile Queue Length [veh/ln]	1.21	1.22	2.03	0.36	2.43	2.36	
95th-Percentile Queue Length [ft/ln]	30.17	30.54	50.74	8.97	60.80	58.93	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	5.17	5.21	29.58	29.58	1.89	0.00	30.70	31.47	31.47	0.00	0.00	0.00
Movement LOS		A	A	C	C	A		C	C	C			
d_A, Approach Delay [s/veh]	5.18			11.22				31.01			0.00		
Approach LOS	A			B				C			A		
d_I, Intersection Delay [s/veh]	12.96												
Intersection LOS	B												
Intersection V/C	0.219												

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	21.68
l_p,int, Pedestrian LOS Score for Intersection	2.277	2.569	1.978	1.793
Crosswalk LOS	B	B	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	367	900	833	0
d_b, Bicycle Delay [s]	20.01	9.08	10.21	30.00
l_b,int, Bicycle LOS Score for Intersection	1.810	1.818	1.850	4.132
Bicycle LOS	A	A	A	D

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: North Bound I-5 at SR-41 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	22.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	47	335	0	0	395	147	0	0	0	20	2	181
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.00	11.00	11.00	11.00	11.00	11.00	2.00	2.00	2.00	11.00	11.00	11.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	47	335	0	0	395	147	0	0	0	20	2	181
Peak Hour Factor	0.9900	0.9900	0.9900	0.9900	0.9900	0.9900	1.0000	1.0000	1.0000	0.9900	0.9900	0.9900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	85	0	0	100	37	0	0	0	5	1	46
Total Analysis Volume [veh/h]	47	338	0	0	399	148	0	0	0	20	2	183
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.01	0.22
d_M, Delay for Movement [s/veh]	8.95	0.00	0.00	8.12	0.00	0.00	0.00	0.00	0.00	16.66	22.64	10.77
Movement LOS	A	A	A	A	A	A				C	C	B
95th-Percentile Queue Length [veh/ln]	0.15	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.90	0.90
95th-Percentile Queue Length [ft/ln]	3.86	1.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.84	22.49	22.49
d_A, Approach Delay [s/veh]	1.09			0.00			0.00			11.46		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	2.44											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: Bernard Drive at SR-41

Control Type:	Signalized	Delay (sec / veh):	26.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.500

Intersection Setup

Name														
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				No			No		

Volumes

Name														
Base Volume Input [veh/h]	110	47	270	49	1	71	245	13	7	9	58	153	7	47
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	47	270	49	1	71	245	13	7	9	58	153	7	47
Peak Hour Factor	0.940	0.940	0.940	0.940	0.940	0.940	0.940	0.940	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	13	72	13	0	19	65	3	2	2	15	41	2	13
Total Analysis Volume [veh/h]	117	50	287	52	1	76	261	14	7	10	62	163	7	50
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups														
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	30	0	0	30	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	16	28	0	0	11	23	0	0	10	0	0	21	0
Vehicle Extension [s]	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	5	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	10	0	0	0	10	0	0	10	0	0	12	0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	32	32	4	27	5	12
g / C, Green / Cycle	0.13	0.46	0.46	0.06	0.39	0.07	0.18
(v / s)_i Volume / Saturation Flow Rate	0.11	0.10	0.04	0.05	0.18	0.06	0.15
s, saturation flow rate [veh/h]	1487	2973	1327	1487	1547	1366	1450
c, Capacity [veh/h]	200	1376	614	94	606	93	258
d1, Uniform Delay [s]	29.54	11.18	10.51	32.40	15.77	32.28	27.89
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.80	0.34	0.27	15.91	2.45	18.94	7.85
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.21	0.08	0.82	0.45	0.85	0.85
d, Delay for Lane Group [s/veh]	38.34	11.53	10.79	48.31	18.22	51.22	35.74
Lane Group LOS	D	B	B	D	B	D	D
Critical Lane Group	Yes	No	No	No	Yes	Yes	Yes
50th-Percentile Queue Length [veh/ln]	3.11	1.26	0.45	1.66	3.40	1.77	3.96
50th-Percentile Queue Length [ft/ln]	77.84	31.58	11.36	41.51	84.97	44.14	99.06
95th-Percentile Queue Length [veh/ln]	5.60	2.27	0.82	2.99	6.12	3.18	7.13
95th-Percentile Queue Length [ft/ln]	140.11	56.85	20.44	74.71	152.95	79.45	178.31

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.34	38.34	11.53	10.79	48.31	48.31	18.22	18.22	51.22	51.22	51.22	35.74	35.74	35.74
Movement LOS	D	D	B	B	D	D	B	B	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	20.30				24.80				51.22			35.74		
Approach LOS	C				C				D			D		
d_I, Intersection Delay [s/veh]	26.72													
Intersection LOS	C													
Intersection V/C	0.500													

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	26.58	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.290	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	686	543	171	486
d_b, Bicycle Delay [s]	15.11	18.58	29.26	20.06
l_b,int, Bicycle LOS Score for Intersection	1.881	2.015	1.690	1.923
Bicycle LOS	A	B	A	A

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: 25th Avenue at SR-41

Control Type:	Two-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.063

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	311	2	11	314	0	42
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.00	11.00	11.00	11.00	11.00	11.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	311	2	11	314	0	42
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	81	1	3	82	0	11
Total Analysis Volume [veh/h]	324	2	11	327	0	44
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.06
d_M, Delay for Movement [s/veh]	0.00	0.00	8.07	0.00	13.96	10.52
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.03	0.03	0.00	0.20
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.70	0.70	0.00	5.05
d_A, Approach Delay [s/veh]	0.00		0.26		10.52	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.78					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Utica Avenue at South Bound 25th Street

Control Type:	Two-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.047

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	33	77	7	4	5	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	77	7	4	5	7
Peak Hour Factor	0.7200	0.7200	0.7200	0.7200	0.7200	0.7200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	27	2	1	2	2
Total Analysis Volume [veh/h]	46	107	10	6	7	10
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.10	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.31	8.97	0.00	0.00	7.26	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.52	0.52	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	12.93	12.93	0.00	0.00	0.33	0.33
d_A, Approach Delay [s/veh]	9.07		0.00		2.99	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	7.74					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Utica Avenue at South Bound I-5 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.010

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00			30.00			30.00	
Grade [%]		0.00			0.00			0.00			0.00	
Crosswalk		No			No			No			No	

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	21	6	5	0	76	7	1	7	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	21	6	5	0	76	7	1	7	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.7500	0.7500	0.7500	1.0000	0.7500	0.7500	0.7500	0.7500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	7	2	2	0	25	2	0	2	0
Total Analysis Volume [veh/h]	0	0	0	28	8	7	0	101	9	1	9	0
Pedestrian Volume [ped/h]		0			0			0			0	

Intersection Settings

Priority Scheme	Stop			Stop			Free			Free		
Flared Lane				No								
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance				No								
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	9.41	9.90	8.57	0.00	0.00	0.00	7.43	0.00	0.00
Movement LOS				A	A	A		A	A	A	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.16	0.16	0.16	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	3.90	3.90	3.90	0.00	0.00	0.00	0.05	0.05	0.00
d_A, Approach Delay [s/veh]	0.00			9.36			0.00			0.74		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.52											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 7: Utica Avenue at North Bound I-5 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	10.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	1	2	5	0	0	0	58	38	0	0	10	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	2	5	0	0	0	58	38	0	0	10	43
Peak Hour Factor	0.8500	0.8500	0.8500	1.0000	1.0000	1.0000	0.8500	0.8500	1.0000	1.0000	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	1	0	0	0	17	11	0	0	3	13
Total Analysis Volume [veh/h]	1	2	6	0	0	0	68	45	0	0	12	51
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No			
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.16	10.78	8.56	0.00	0.00	0.00	7.45	0.00	0.00	0.00	0.00	0.00
Movement LOS	B	B	A				A	A			A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.03	0.00	0.00	0.00	0.14	0.14	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.79	0.79	0.79	0.00	0.00	0.00	3.46	3.46	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.23			0.00			4.48			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.19											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 8: Utica Avenue at Frontage Road

Control Type:	Two-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	0	2	0	44	54	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	2	0	44	54	0
Peak Hour Factor	0.8600	0.8600	0.8600	0.8600	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	0	13	16	0
Total Analysis Volume [veh/h]	0	2	0	51	63	0
Pedestrian Volume [ped/h]	0		0		0	

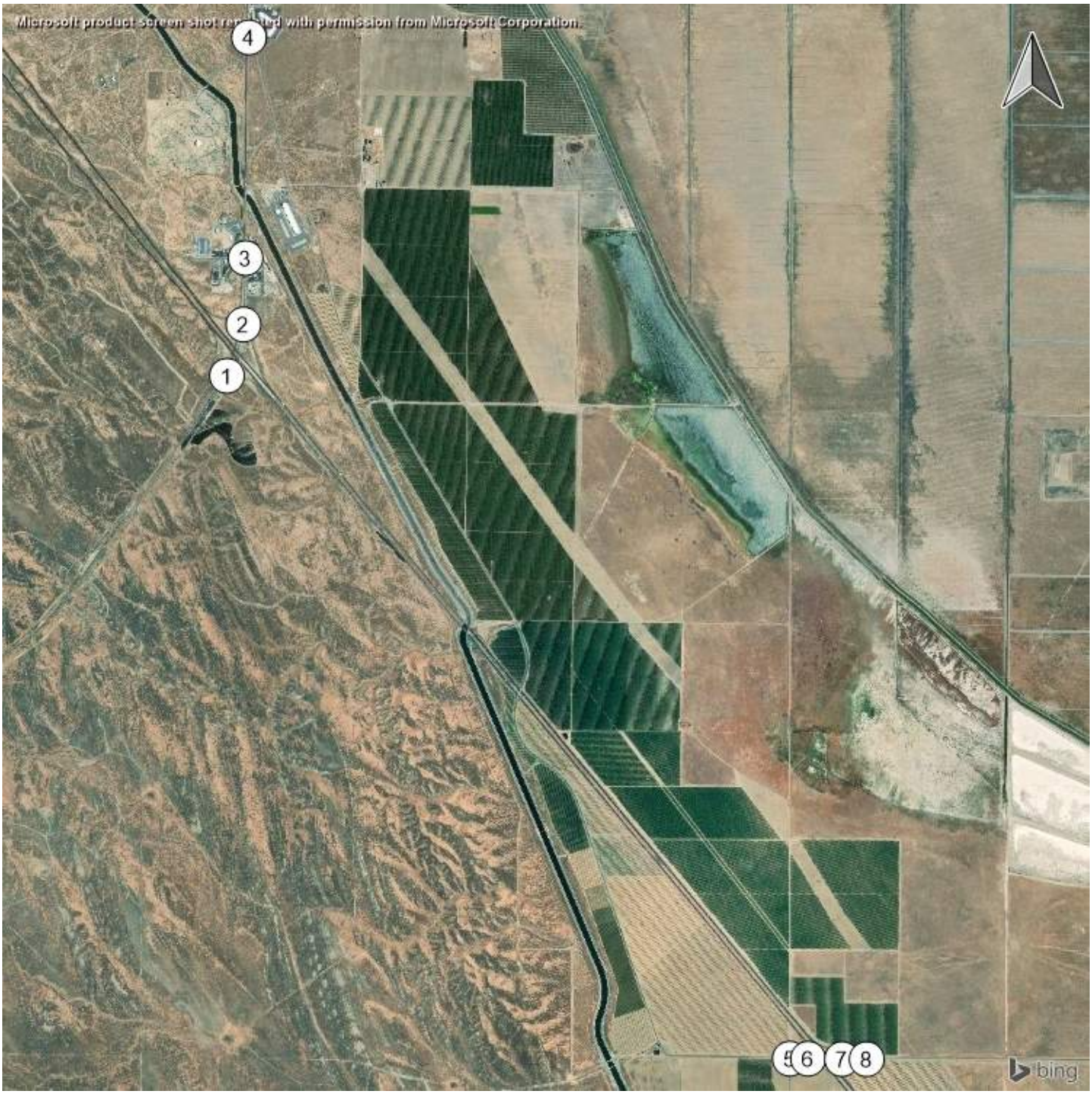
Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

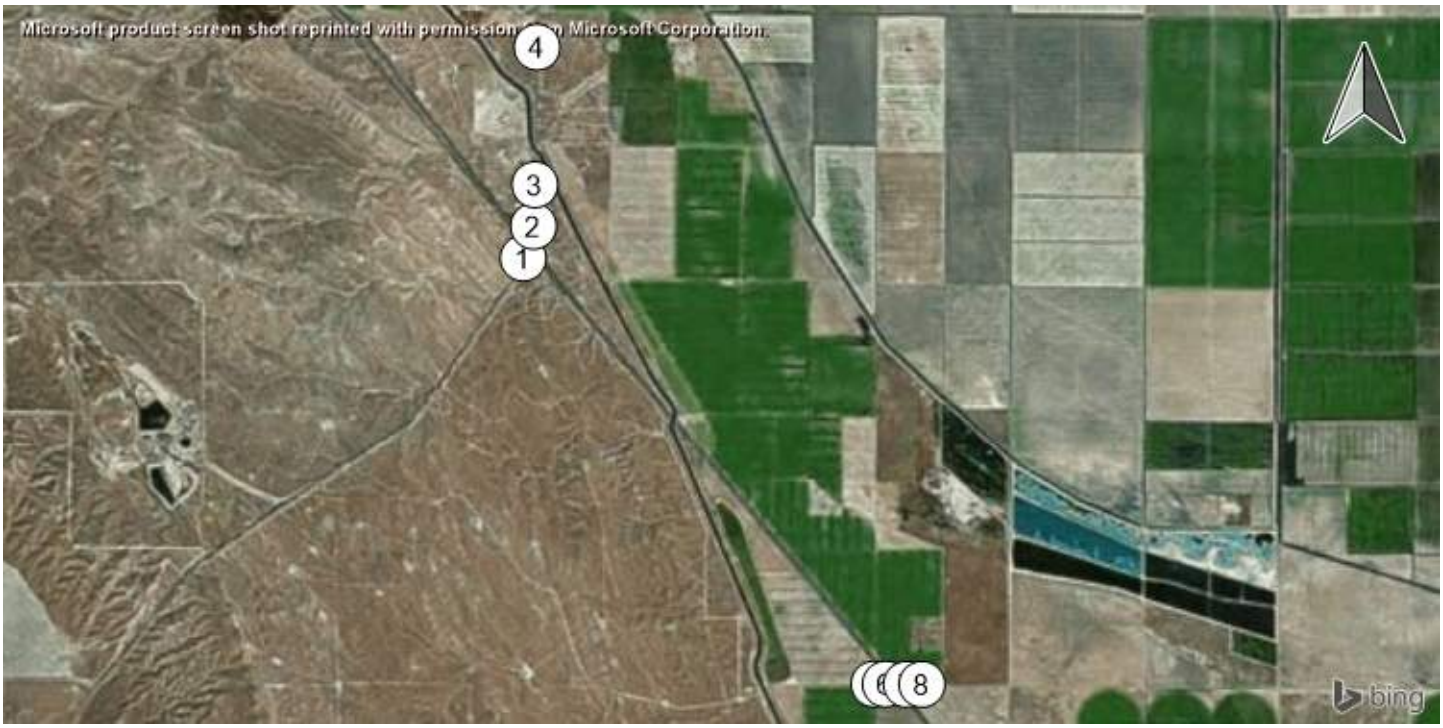
Movement, Approach, & Intersection Results

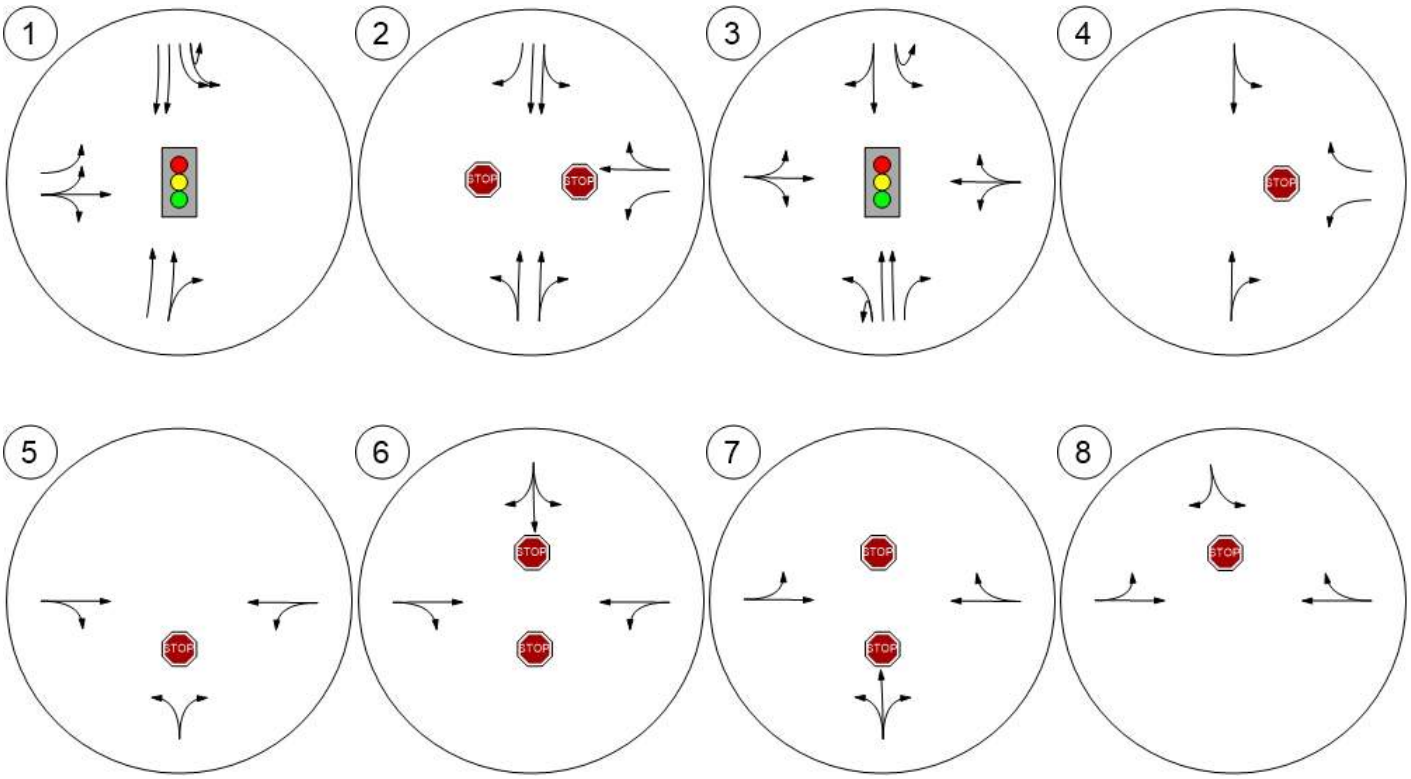
V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.09	8.60	7.34	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.15	0.15	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.60		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.15					
Intersection LOS	A					

Study Intersections

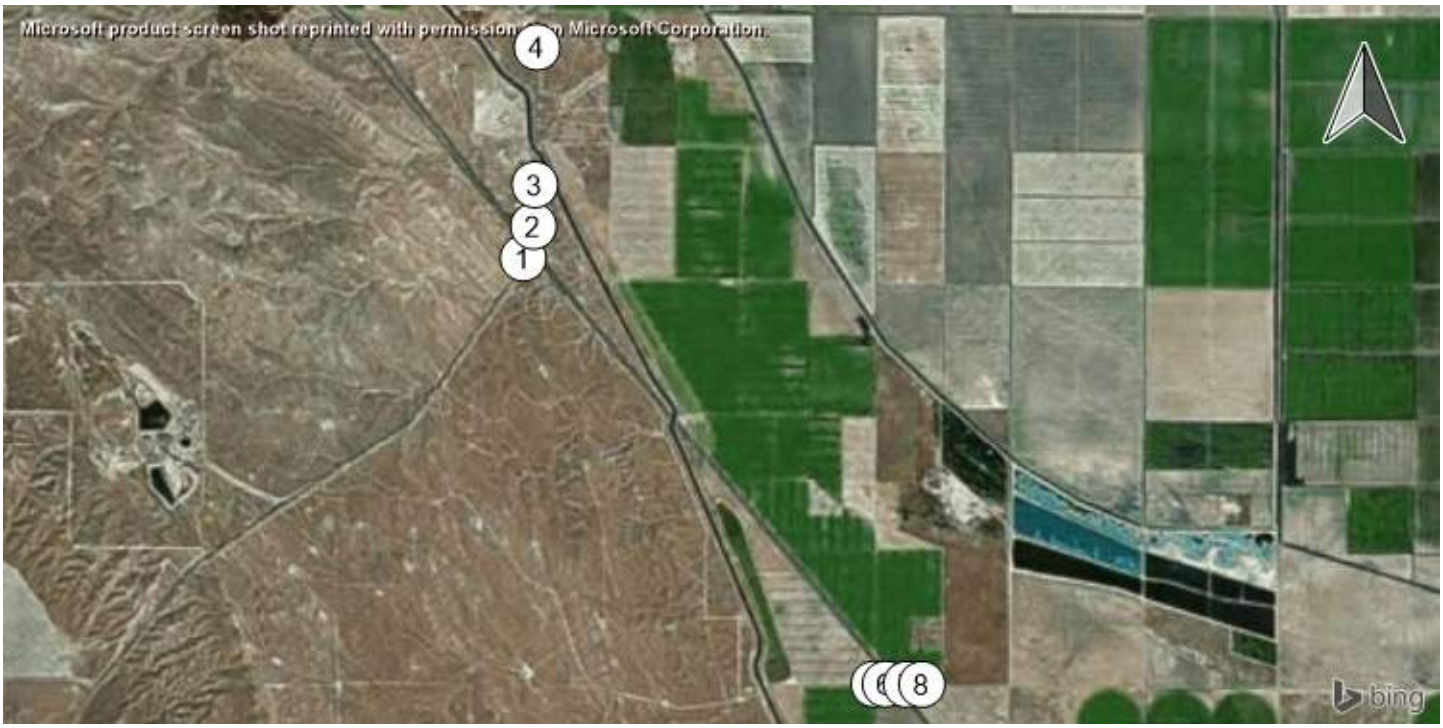


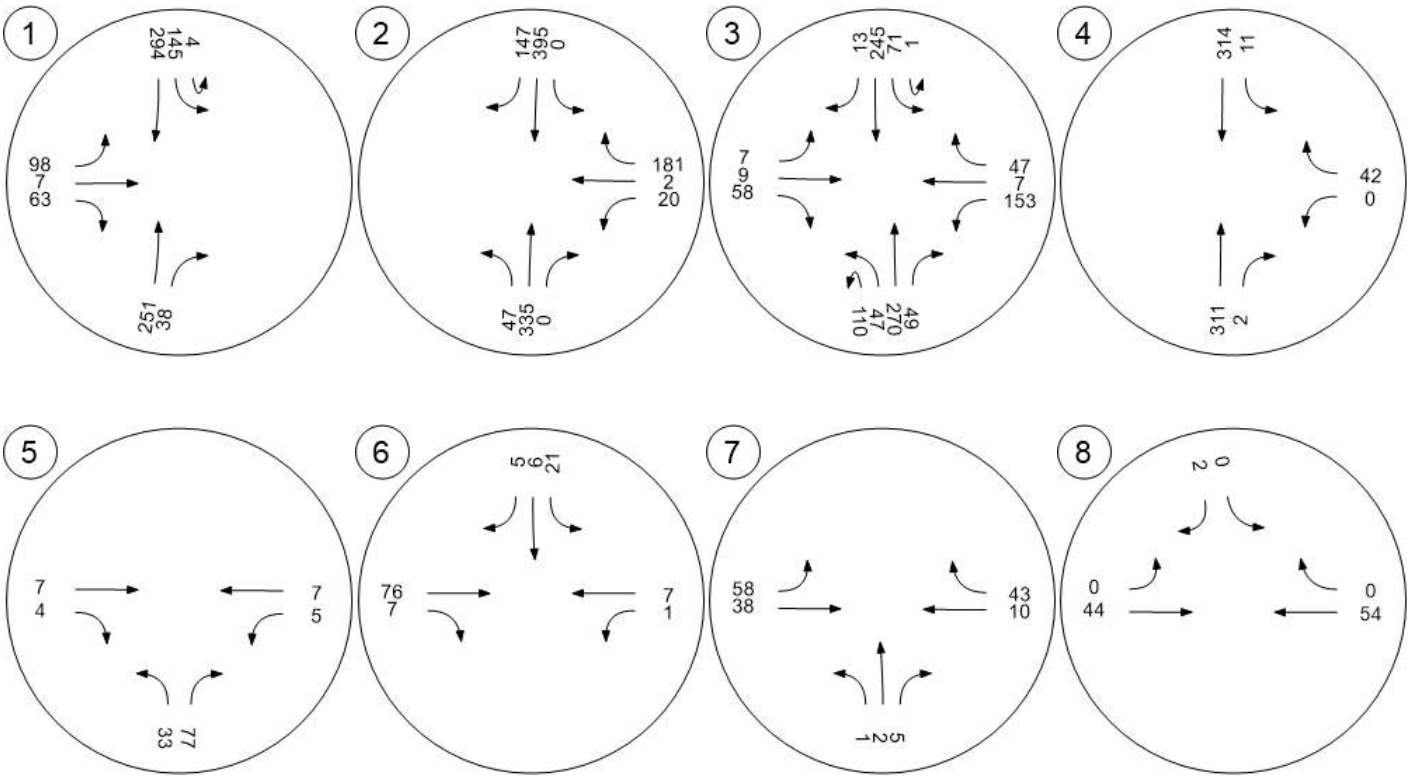
Lane Configuration and Traffic Control





Traffic Volume - Future Total Volume





Intersection Level Of Service Report
Intersection 1: South Bound I-5 at SR-41 Ramps

Control Type:	Signalized	Delay (sec / veh):	12.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.159

Intersection Setup

Name													
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]		30.00			30.00				30.00			30.00	
Grade [%]		0.00			0.00				0.00			0.00	
Curb Present		No			No				No				
Crosswalk		Yes			Yes				Yes			Yes	

Volumes

Name													
Base Volume Input [veh/h]	0	198	17	1	86	161	0	72	8	32	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	13.00	13.00	13.00	13.00	13.00	2.00	13.00	13.00	13.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	198	17	1	86	161	0	72	8	32	0	0	0
Peak Hour Factor	1.0000	0.9000	0.9000	0.900	0.900	0.900	1.000	0.9000	0.9000	0.9000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	55	5	0	24	45	0	20	2	9	0	0	0
Total Analysis Volume [veh/h]	0	220	19	1	96	179	0	80	9	36	0	0	0
Presence of On-Street Parking	No		No	No			No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0				0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0				0			0	
v_co, Outbound Pedestrian Volume crossing		0			0				0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0				0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0				0			0	
Bicycle Volume [bicycles/h]		0			0				0			0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	4	0	0	0	0
Auxiliary Signal Groups													
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	21	0	0	12	33	0	0	27	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	6	0	0	0	6	0	0	18	0	0	0	0
Rest In Walk		No				No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No			No	No			No				
Maximum Recall		No			No	No			No				
Pedestrian Recall		No			No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	L	C	
C, Cycle Length [s]	60	60	60	60	60	60	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	40	40	4	48	4	4	
g / C, Green / Cycle	0.66	0.66	0.07	0.79	0.07	0.07	
(v / s)_i Volume / Saturation Flow Rate	0.08	0.08	0.03	0.06	0.04	0.04	
s, saturation flow rate [veh/h]	1534	1493	2838	2921	1461	1374	
c, Capacity [veh/h]	1008	980	195	2314	109	103	
d1, Uniform Delay [s]	3.84	3.85	27.01	1.38	26.92	26.96	
k, delay calibration	0.50	0.50	0.11	0.50	0.11	0.11	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.24	0.25	1.95	0.07	4.79	5.48	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.12	0.12	0.50	0.08	0.58	0.60	
d, Delay for Lane Group [s/veh]	4.08	4.10	28.96	1.45	31.70	32.44	
Lane Group LOS	A	A	C	A	C	C	
Critical Lane Group	No	Yes	Yes	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	0.43	0.43	0.69	0.08	0.98	0.97	
50th-Percentile Queue Length [ft/ln]	10.80	10.87	17.23	1.89	24.46	24.19	
95th-Percentile Queue Length [veh/ln]	0.78	0.78	1.24	0.14	1.76	1.74	
95th-Percentile Queue Length [ft/ln]	19.44	19.57	31.02	3.40	44.03	43.53	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	4.09	4.10	28.96	28.96	1.45	0.00	31.86	32.44	32.44	0.00	0.00	0.00
Movement LOS		A	A	C	C	A		C	C	C			
d_A, Approach Delay [s/veh]		4.09			11.12				32.07			0.00	
Approach LOS		A			B				C			A	
d_I, Intersection Delay [s/veh]	12.59												
Intersection LOS	B												
Intersection V/C	0.159												

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	21.68
l_p,int, Pedestrian LOS Score for Intersection	2.222	2.527	1.961	1.756
Crosswalk LOS	B	B	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	567	967	767	0
d_b, Bicycle Delay [s]	15.41	8.01	11.41	30.00
l_b,int, Bicycle LOS Score for Intersection	1.757	1.708	1.766	4.132
Bicycle LOS	A	A	A	D

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: North Bound I-5 at SR-41 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	13.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	25	246	0	0	244	97	0	0	0	4	0	102
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	13.00	13.00	13.00	13.00	13.00	13.00	2.00	2.00	2.00	13.00	13.00	13.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	246	0	0	244	97	0	0	0	4	0	102
Peak Hour Factor	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	1.0000	1.0000	1.0000	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	70	0	0	69	28	0	0	0	1	0	29
Total Analysis Volume [veh/h]	28	280	0	0	277	110	0	0	0	5	0	116
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.14
d_M, Delay for Movement [s/veh]	8.38	0.00	0.00	7.99	0.00	0.00	0.00	0.00	0.00	13.35	16.89	9.91
Movement LOS	A	A	A	A	A	A				B	C	A
95th-Percentile Queue Length [veh/ln]	0.08	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.47	0.47
95th-Percentile Queue Length [ft/ln]	1.97	0.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.87	11.81	11.81
d_A, Approach Delay [s/veh]	0.76			0.00			0.00			10.05		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	1.78											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 3: Bernard Drive at SR-41

Control Type:	Signalized	Delay (sec / veh):	21.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.342

Intersection Setup

Name														
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00				30.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				No			No		

Volumes

Name														
Base Volume Input [veh/h]	63	27	214	26	0	40	158	8	8	10	36	80	6	29
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	63	27	214	26	0	40	158	8	8	10	36	80	6	29
Peak Hour Factor	0.850	0.850	0.850	0.850	0.850	0.850	0.850	0.850	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	8	63	8	0	12	46	2	2	3	11	24	2	9
Total Analysis Volume [veh/h]	74	32	252	31	0	47	186	9	9	12	42	94	7	34
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups														
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	30	0	0	30	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	18	9	0	0	18	9	0	0	9	0	0	24	0
Vehicle Extension [s]	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	5	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	10	0	0	0	10	0	0	10	0	0	12	0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	31	31	3	28	3	7
g / C, Green / Cycle	0.09	0.52	0.52	0.05	0.47	0.05	0.12
(v / s)_i Volume / Saturation Flow Rate	0.07	0.09	0.02	0.03	0.13	0.05	0.09
s, saturation flow rate [veh/h]	1461	2921	1304	1461	1522	1364	1422
c, Capacity [veh/h]	130	1505	672	68	720	74	166
d1, Uniform Delay [s]	26.85	7.72	7.22	28.17	9.56	28.12	25.84
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	11.59	0.24	0.13	11.61	0.93	22.20	9.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.17	0.05	0.69	0.27	0.85	0.81
d, Delay for Lane Group [s/veh]	38.44	7.96	7.35	39.78	10.49	50.33	34.91
Lane Group LOS	D	A	A	D	B	D	C
Critical Lane Group	Yes	No	No	No	Yes	Yes	Yes
50th-Percentile Queue Length [veh/ln]	1.83	0.76	0.19	0.85	1.50	1.31	2.19
50th-Percentile Queue Length [ft/ln]	45.63	19.10	4.71	21.31	37.54	32.71	54.63
95th-Percentile Queue Length [veh/ln]	3.29	1.37	0.34	1.53	2.70	2.35	3.93
95th-Percentile Queue Length [ft/ln]	82.13	34.37	8.48	38.36	67.57	58.87	98.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.44	38.44	7.96	7.35	39.78	39.78	10.49	10.49	50.33	50.33	50.33	34.91	34.91	34.91
Movement LOS	D	D	A	A	D	D	B	B	D	D	D	C	C	C
d_A, Approach Delay [s/veh]	16.22				16.18				50.33			34.91		
Approach LOS	B				B				D			C		
d_I, Intersection Delay [s/veh]	21.84													
Intersection LOS	C													
Intersection V/C	0.342													

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	21.68	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.243	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	167	167	167	667
d_b, Bicycle Delay [s]	25.21	25.21	25.21	13.33
l_b,int, Bicycle LOS Score for Intersection	1.819	1.881	1.664	1.782
Bicycle LOS	A	A	A	A

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: 25th Avenue at SR-41

Control Type:	Two-way stop	Delay (sec / veh):	12.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	242	1	13	188	2	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	13.00	13.00	13.00	13.00	13.00	13.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	242	1	13	188	2	13
Peak Hour Factor	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	73	0	4	57	1	4
Total Analysis Volume [veh/h]	292	1	16	227	2	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	8.02	0.00	12.70	10.10
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.04	0.04	0.01	0.07
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.01	1.01	0.32	1.70
d_A, Approach Delay [s/veh]	0.00		0.53		10.39	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.57					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Utica Avenue at South Bound 25th Street

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.010

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	6	14	5	2	4	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	13.00	13.00	13.00	13.00	13.00	13.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	14	5	2	4	1
Peak Hour Factor	0.6200	0.6200	0.6200	0.6200	0.6200	0.6200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	6	2	1	2	0
Total Analysis Volume [veh/h]	10	23	8	3	6	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.02	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.86	8.58	0.00	0.00	7.35	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.10	0.10	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	2.52	2.52	0.00	0.00	0.29	0.29
d_A, Approach Delay [s/veh]	8.66		0.00		5.51	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	6.35					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Utica Avenue at South Bound I-5 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	21	3	2	0	19	1	0	3	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	13.00	13.00	13.00	2.00	13.00	13.00	13.00	13.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	21	3	2	0	19	1	0	3	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.5600	0.5600	0.5600	1.0000	0.5600	0.5600	0.5600	0.5600	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	9	1	1	0	8	0	0	1	0
Total Analysis Volume [veh/h]	0	0	0	37	5	4	0	34	2	0	5	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane		No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	9.04	9.54	8.64	0.00	0.00	0.00	7.39	0.00	0.00
Movement LOS				A	A	A		A	A	A	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.16	0.16	0.16	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	3.89	3.89	3.89	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			9.06			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	4.79											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 7: Utica Avenue at North Bound I-5 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	9.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	1	4	2	0	0	0	10	31	0	0	2	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	13.00	13.00	13.00	2.00	2.00	2.00	13.00	13.00	2.00	2.00	13.00	13.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	4	2	0	0	0	10	31	0	0	2	17
Peak Hour Factor	0.8000	0.8000	0.8000	1.0000	1.0000	1.0000	0.8000	0.8000	1.0000	1.0000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	1	0	0	0	3	10	0	0	1	5
Total Analysis Volume [veh/h]	1	5	3	0	0	0	13	39	0	0	3	21
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No			
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.15	9.70	8.64	0.00	0.00	0.00	7.39	0.00	0.00	0.00	0.00	0.00
Movement LOS	A	A	A				A	A			A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.03	0.00	0.00	0.00	0.03	0.03	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.80	0.80	0.80	0.00	0.00	0.00	0.65	0.65	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.28			0.00			1.85			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.11											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 8: Utica Avenue at Frontage Road

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	2	0	2	31	18	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	13.00	13.00	13.00	13.00	13.00	13.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	0	2	31	18	0
Peak Hour Factor	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	1	11	6	0
Total Analysis Volume [veh/h]	3	0	3	44	26	0
Pedestrian Volume [ped/h]	0		0		0	

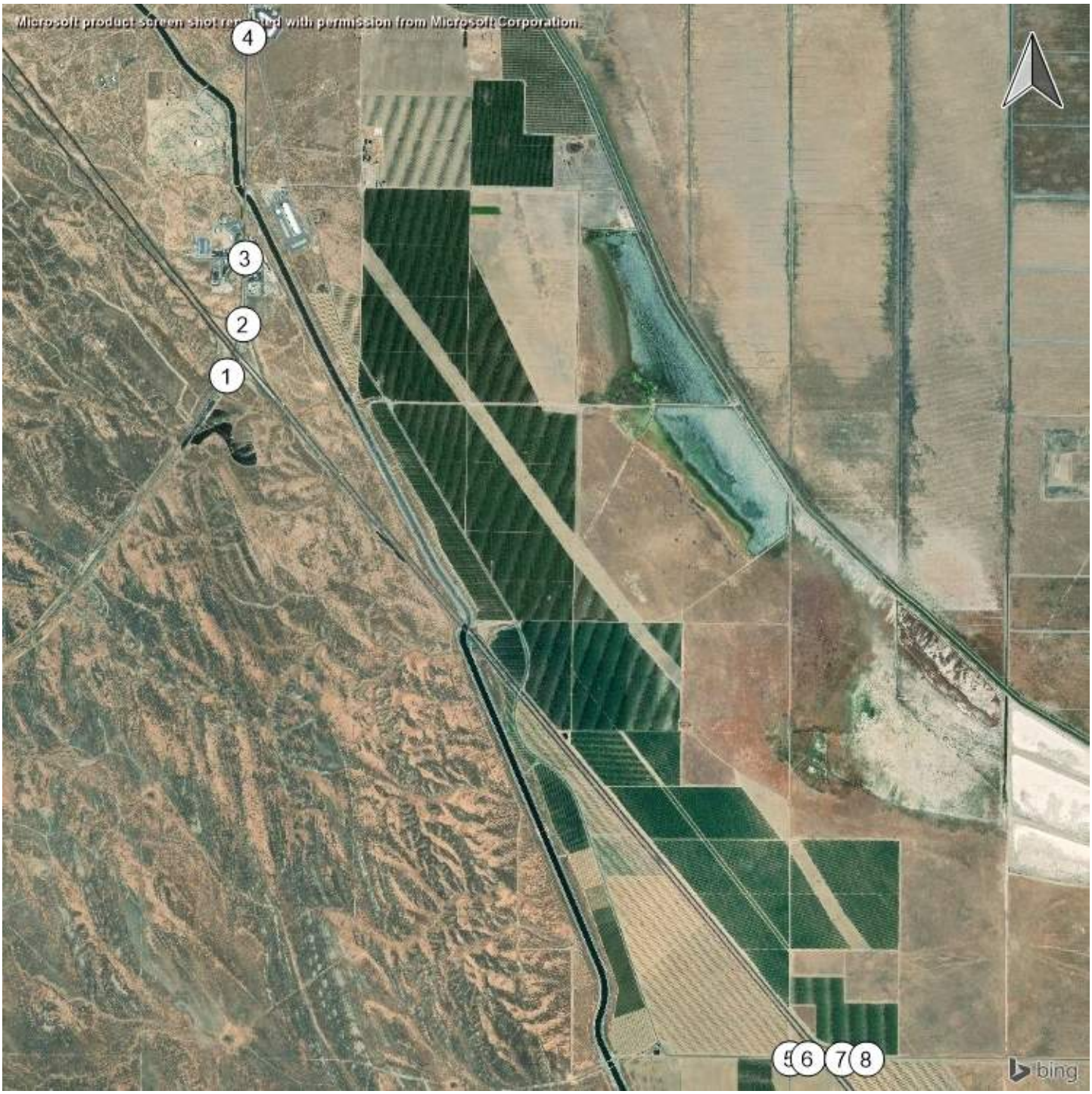
Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

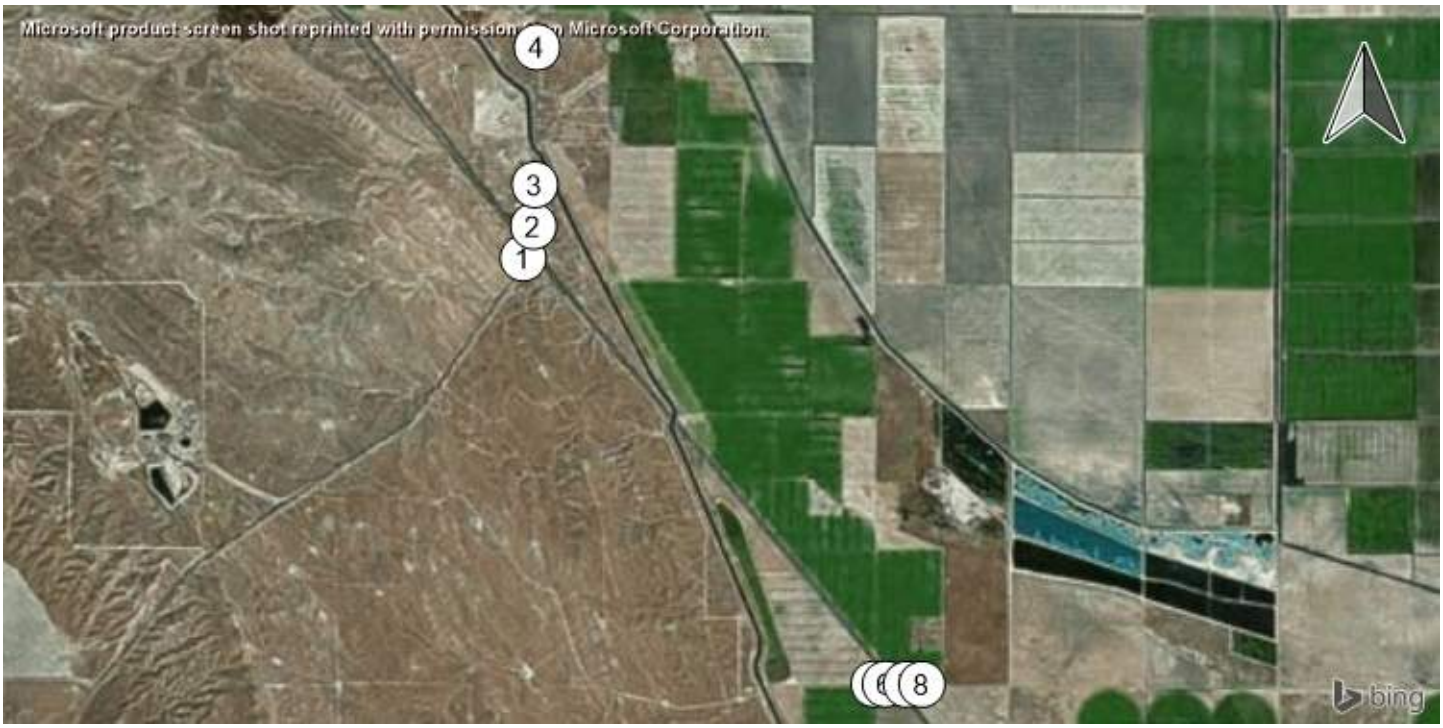
Movement, Approach, & Intersection Results

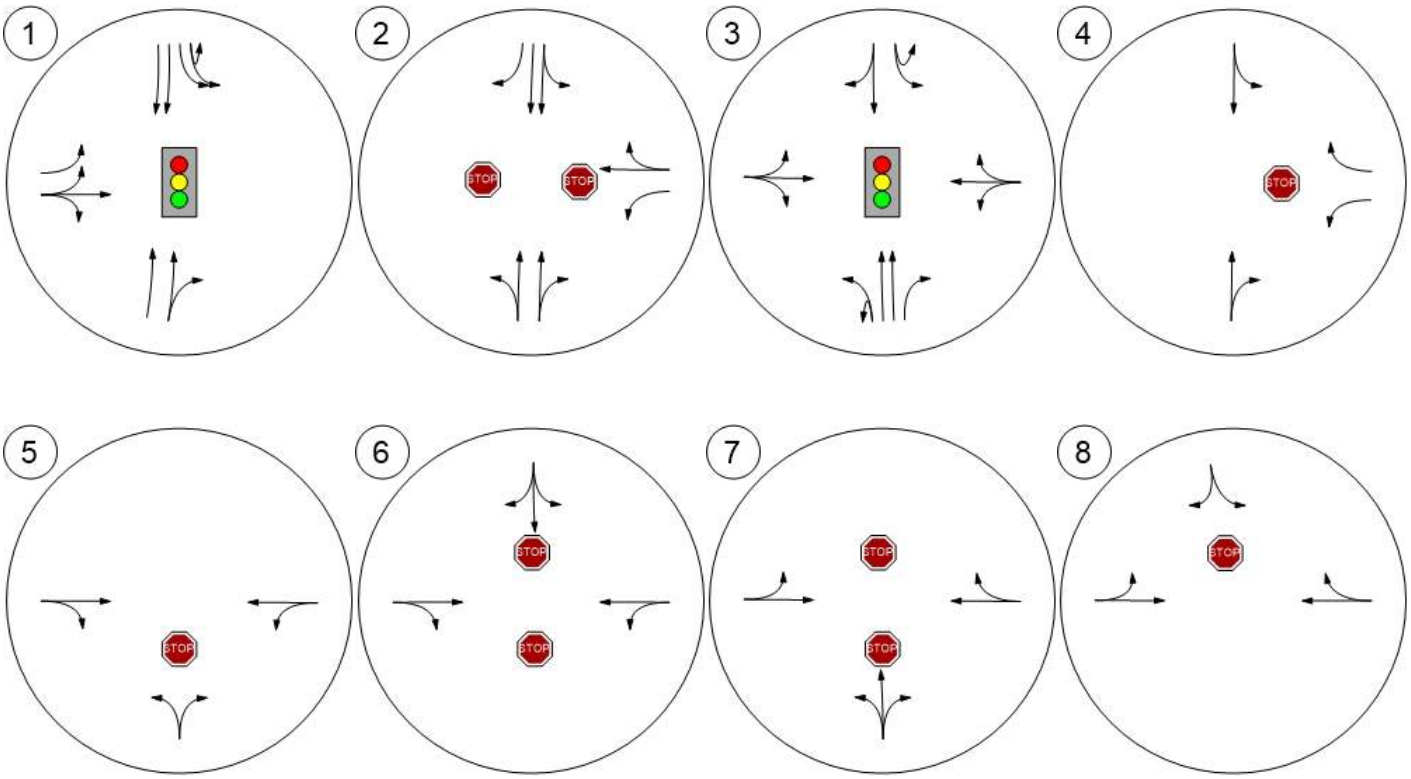
V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.02	8.55	7.37	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.25	0.25	0.15	0.15	0.00	0.00
d_A, Approach Delay [s/veh]	9.02		0.47		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.65					
Intersection LOS	A					

Study Intersections

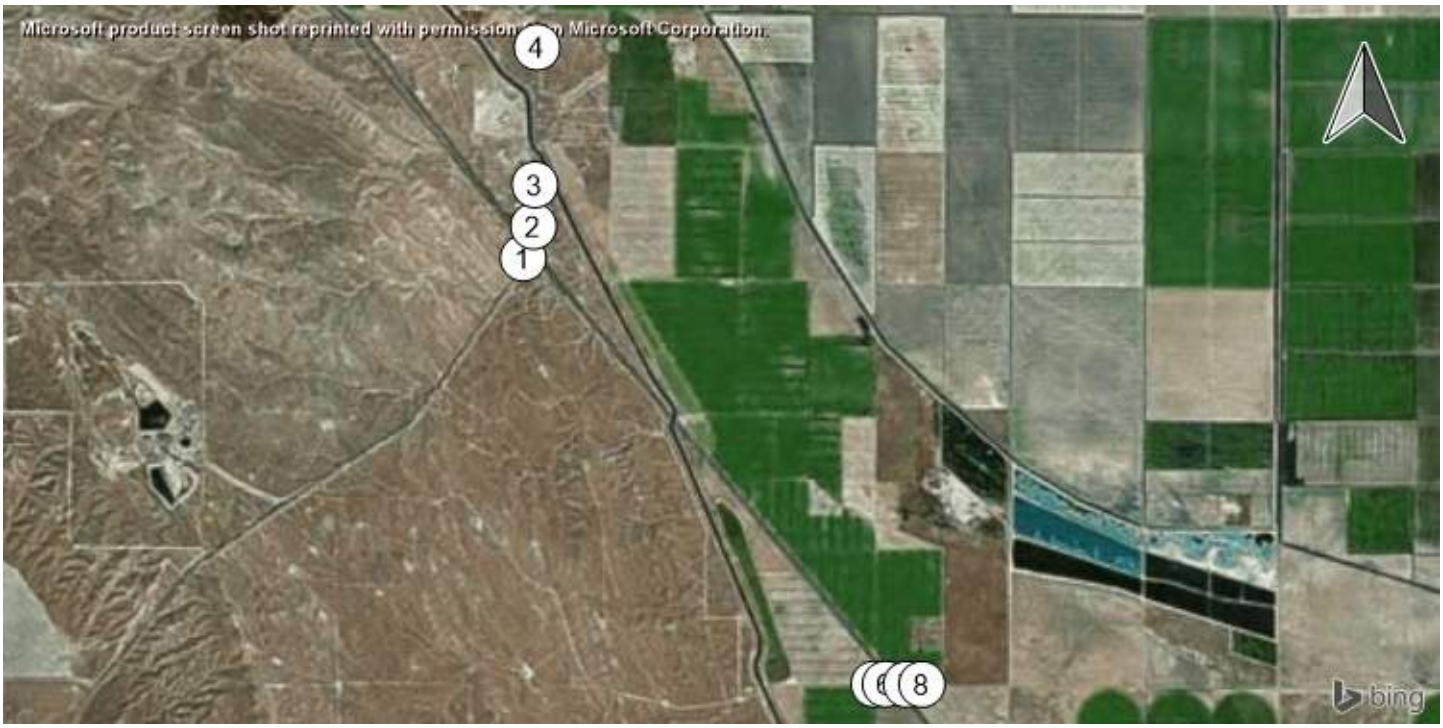


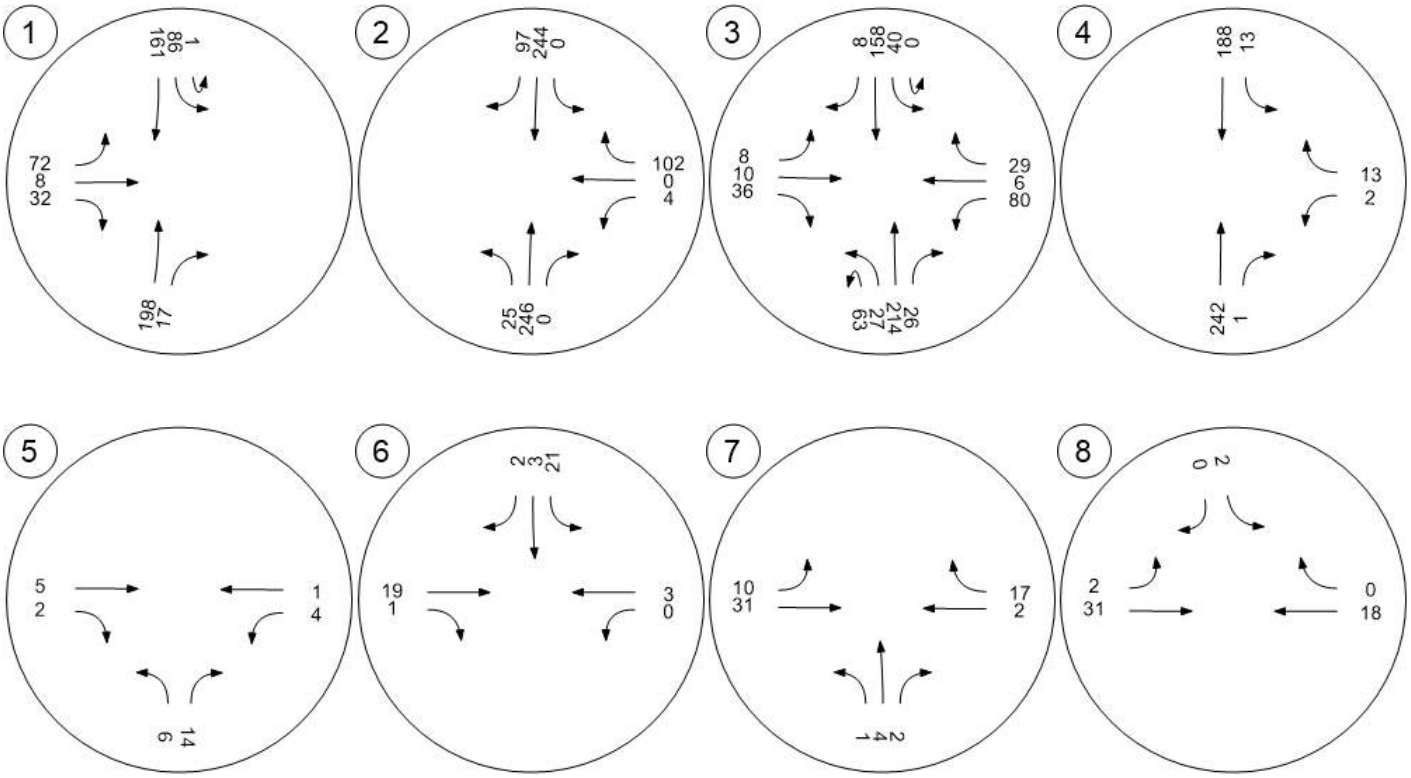
Lane Configuration and Traffic Control





Traffic Volume - Future Total Volume





APPENDIX D: FREEWAY VOLUME DATA

I-5 Northbound north of SR41, Weekday

Time	Minimum	Mean	Maximum	# Lane Points	% Observed
00:00	452	482	515	96	100
01:00	378	402	422	96	100
02:00	343	383	410	96	100
03:00	376	394	403	96	100
04:00	381	391	403	96	100
05:00	405	444	492	96	100
06:00	498	545	600	96	100
07:00	581	**683**	751	96	100
08:00	590	**780**	932	96	100
09:00	725	812	931	96	100
10:00	726	789	859	96	100
11:00	718	833	960	96	100
12:00	752	840	911	96	100
13:00	1,049	1,160	1,268	96	100
14:00	1,152	1,274	1,416	96	100
15:00	1,181	1,283	1,401	72	100
16:00	1,109	**1,218**	1,324	72	100
17:00	1,004	**1,098**	1,151	72	100
18:00	780	861	945	70	100
19:00	656	747	849	72	100
20:00	605	680	807	72	100
21:00	586	627	688	72	100
22:00	477	593	717	72	100
23:00	523	565	616	72	100

Report Description

Report	Aggregates>Time of Day
Report link	*http://pems.dot.ca.gov/?report_form=1&dnode=VDS&content=loops&tab=det_tod&station_id=601589&s_time_id=1565740800&s_time_id_f=08%2F14%2F2019&e_time_id=1566431940&e_time_id_f=08%2F21%2F2019&dow_2=on&dow_3=on&dow_4=on&q=flow&fn=1&pct1=25&pct2=75*
Report generat	08/21/2019 15:09
PeMS version	caltrans_pems-18.0.0

Report Parameters

Parameter	Value
Quantity	Flow
Data	2,086 Lane Points
Data Quality	100% Observed
Segment Type	VDS
Segment Name	Mainline VDS 601589 - I-5 1.9 MI S/O RTE 269 NB
start date	08/14/2019 00:00:00
end date	08/21/2019 15:09:49

I-5 Northbound north of SR41, Friday

Time	Minimum	Mean	Maximum	# Lane Points	% Observed
00:00	489	489	489	24	100
01:00	450	450	450	24	100
02:00	453	453	453	24	100
03:00	490	490	490	24	100
04:00	413	413	413	24	100
05:00	530	530	530	24	100
06:00	653	653	653	24	100
07:00	889	889	889	24	100
08:00	1,219	1,219	1,219	24	100
09:00	1,273	1,273	1,273	24	100
10:00	1,270	1,270	1,270	24	100
11:00	1,079	1,079	1,079	24	100
12:00	1,272	1,272	1,272	24	100
13:00	1,509	1,509	1,509	24	100
14:00	1,496	**1,496**	1,496	24	100
15:00	1,728	**1,728**	1,728	24	100
16:00	1,668	**1,668**	1,668	24	100
17:00	1,438	**1,438**	1,438	24	100
18:00	1,146	1,146	1,146	24	100
19:00	1,097	1,097	1,097	24	100
20:00	924	924	924	24	100
21:00	855	855	855	24	100
22:00	915	915	915	24	100
23:00	709	709	709	24	100

Report Description

Report	Aggregates>Time of Day
Report link	*http://pems.dot.ca.gov/?report_form=1&dnode=VDS&content=loops&tab=det_tod&station_id=601589&s_time_id=1565740800&s_time_id_f=08%2F14%2F2019&e_time_id=1566431940&e_time_id_f=08%2F21%2F2019&dow_5=on&q=flow&fn=1&pct1=25&pct2=75*
Report generatec	08/21/2019 15:06
PeMS version	caltrans_pems-18.0.0

Report Parameters

Parameter	Value
Quantity	Flow
Data	576 Lane Points
Data Quality	100% Observed
Segment Type	VDS
Segment Name	Mainline VDS 601589 - I-5 1.9 MI S/O RTE 269 NB
start date	08/14/2019 00:00:00
end date	08/21/2019 15:06:55

I-5 Northbound north of Utica, Weekday

Time	Minimum	Mean	Maximum	# Lane Points	% Observed
00:00	480	516	561	96	100
01:00	377	409	483	96	100
02:00	378	399	421	96	100
03:00	352	375	399	96	100
04:00	322	372	406	96	100
05:00	417	472	518	96	100
06:00	507	571	642	96	100
07:00	590	**732**	819	96	100
08:00	626	**798**	938	96	100
09:00	761	814	876	96	100
10:00	707	800	889	96	100
11:00	733	797	885	96	100
12:00	845	921	1,009	96	100
13:00	1,082	1,191	1,318	96	100
14:00	1,216	1,273	1,309	72	100
15:00	1,206	1,363	1,593	72	100
16:00	1,098	**1,199**	1,268	72	100
17:00	1,042	**1,105**	1,185	72	100
18:00	735	830	929	70	100
19:00	666	721	825	72	100
20:00	630	687	769	72	100
21:00	577	614	677	72	100
22:00	474	604	705	72	100
23:00	611	611	611	72	100

Report Description

Report	Aggregates>Time of Day
Report link	*http://pems.dot.ca.gov/?report_form=1&dnode=VDS&content=loops&tab=det_tod&station_id=601506&s_time_id=1565740800&s_time_id_f=08%2F14%2F2019&e_time_id=1566431940&e_time_id_f=08%2F21%2F2019&dow_2=on&dow_3=on&dow_4=on&q=flow&fn=1&pct1=25&pct2=75*
Report generatec	08/21/2019 14:29
PeMS version	caltrans_pems-18.0.0

Report Parameters

Parameter	Value
Quantity	Flow
Data	2,062 Lane Points
Data Quality	100% Observed
Segment Type	VDS
Segment Name	Mainline VDS 601506 - N OF UTICA
start date	08/14/2019 00:00:00
end date	08/21/2019 14:29:52

I-5 Northbound north of Utica, Friday

Time	Minimum	Mean	Maximum	# Lane Points	% Observed
00:00	518	518	518	24	100
01:00	484	484	484	24	100
02:00	473	473	473	24	100
03:00	440	440	440	24	100
04:00	397	397	397	24	100
05:00	555	555	555	24	100
06:00	765	765	765	24	100
07:00	987	987	987	24	100
08:00	1,220	1,220	1,220	24	100
09:00	1,285	1,285	1,285	24	100
10:00	1,208	1,208	1,208	24	100
11:00	1,151	1,151	1,151	24	100
12:00	1,338	1,338	1,338	24	100
13:00	1,430	1,430	1,430	24	100
14:00	1,590	**1,590**	1,590	24	100
15:00	1,651	**1,651**	1,651	24	100
16:00	1,601	**1,601**	1,601	24	100
17:00	1,393	**1,393**	1,393	24	100
18:00	1,248	1,248	1,248	24	100
19:00	1,024	1,024	1,024	24	100
20:00	904	904	904	24	100
21:00	867	867	867	24	100
22:00	939	939	939	24	100
23:00	676	676	676	24	100

Report Description

Report	Aggregates>Time of Day
Report link	*http://pems.dot.ca.gov/?report_form=1&dnode=VDS&content=loops&tab=det_tod&station_id=601506&s_time_id=1565740800&s_time_id_f=08%2F14%2F2019&e_time_id=1566431940&e_time_id_f=08%2F21%2F2019&dow_5=on&q=flow&fn=1&pct1=25&pct2=75*
Report generatec	08/21/2019 14:50
PeMS version	caltrans_pems-18.0.0

Report Parameters

Parameter	Value
Quantity	Flow
Data	576 Lane Points
Data Quality	100% Observed
Segment Type	VDS
Segment Name	Mainline VDS 601506 - N OF UTICA
start date	08/14/2019 00:00:00
end date	08/21/2019 14:50:29

I-5 Southbound, north of SR41, Weekday

Time	Minimum	Mean	Maximum	# Lane Points	% Observed
00:00	344	370	391	96	100
01:00	281	291	302	96	100
02:00	232	273	325	96	100
03:00	222	262	297	96	100
04:00	252	285	311	96	100
05:00	335	380	435	96	100
06:00	426	498	551	96	100
07:00	571	**693**	792	96	100
08:00	795	**898**	1,006	96	100
09:00	807	975	1,117	96	100
10:00	814	1,002	1,113	96	100
11:00	959	1,114	1,192	96	100
12:00	1,066	1,151	1,275	96	100
13:00	1,189	1,305	1,407	72	100
14:00	1,187	1,274	1,354	72	100
15:00	1,175	1,264	1,396	72	100
16:00	1,168	**1,186**	1,219	72	100
17:00	1,097	**1,167**	1,271	72	100
18:00	866	938	1,055	70	100
19:00	723	860	958	72	100
20:00	708	790	912	72	100
21:00	613	752	911	72	100
22:00	587	724	957	72	100
23:00	465	546	700	72	100

Report Description

Report	Aggregates>Time of Day
Report link	*http://pems.dot.ca.gov/?report_form=1&dnode=VDS&content=loops&tab=det_tod&station_id=602589&s_time_id=1565827200&s_time_id_f=08%2F15%2F2019&e_time_id=1566518340&e_time_id_f=08%2F22%2F2019&dow_2=on&dow_3=on&dow_4=on&q=flow&fn=1&pct1=25&pct2=75*
Report generatec	08/22/2019 13:15
PeMS version	caltrans_pems-18.0.0

Report Parameters

Parameter	Value
Quantity	Flow
Data	2,038 Lane Points
Data Quality	100% Observed
Segment Type	VDS
Segment Name	Mainline VDS 602589 - I-5 1.9 MI S/O RTE 269 SB
start date	08/15/2019 00:00:00
end date	08/22/2019 13:15:05

I-5 Southbound, north of SR41, Friday

Time	Minimum	Mean	Maximum	# Lane Points	% Observed
00:00	533	533	533	24	100
01:00	434	434	434	24	100
02:00	404	404	404	24	100
03:00	368	368	368	24	100
04:00	375	375	375	24	100
05:00	502	502	502	24	100
06:00	784	784	784	24	100
07:00	1,071	1,071	1,071	24	100
08:00	1,244	1,244	1,244	24	100
09:00	1,475	1,475	1,475	24	100
10:00	1,519	1,519	1,519	24	100
11:00	1,539	1,539	1,539	24	100
12:00	1,649	1,649	1,649	24	100
13:00	1,673	1,673	1,673	24	100
14:00	1,760	**1,760**	1,760	24	100
15:00	1,586	**1,586**	1,586	24	100
16:00	1,544	**1,544**	1,544	24	100
17:00	1,645	**1,645**	1,645	24	100
18:00	1,477	1,477	1,477	24	100
19:00	1,493	1,493	1,493	24	100
20:00	1,432	1,432	1,432	24	100
21:00	1,241	1,241	1,241	24	100
22:00	1,056	1,056	1,056	24	100
23:00	1,052	1,052	1,052	24	100

I-5 Southbound, north of Utica, Weekday

Time	Minimum	Mean	Maximum	# Lane Points	% Observed
00:00	325	348	364	96	100
01:00	293	299	306	96	100
02:00	245	296	337	96	100
03:00	261	301	332	96	100
04:00	288	329	360	96	100
05:00	364	383	410	96	100
06:00	418	510	566	96	100
07:00	544	**664**	789	96	100
08:00	761	**874**	994	96	100
09:00	833	986	1,121	96	100
10:00	773	959	1,075	96	100
11:00	918	1,028	1,102	72	100
12:00	1,035	1,110	1,225	72	100
13:00	1,227	1,250	1,295	72	100
14:00	1,209	1,309	1,360	72	100
15:00	1,177	1,242	1,340	72	100
16:00	1,153	**1,203**	1,245	72	100
17:00	1,141	**1,193**	1,240	72	100
18:00	831	936	1,070	70	100
19:00	785	866	928	72	100
20:00	647	772	887	72	100
21:00	657	756	884	72	100
22:00	633	745	967	72	100
23:00	437	535	722	72	100

I-5 Southbound, north of Utica, Friday

Time	Minimum	Mean	Maximum	# Lane Points	% Observed
00:00	490	490	490	24	100
01:00	440	440	440	24	100
02:00	429	429	429	24	100
03:00	417	417	417	24	100
04:00	415	415	415	24	100
05:00	517	517	517	24	100
06:00	753	753	753	24	100
07:00	1,002	1,002	1,002	24	100
08:00	1,325	1,325	1,325	24	100
09:00	1,448	1,448	1,448	24	100
10:00	1,445	1,445	1,445	24	100
11:00	1,441	1,441	1,441	24	100
12:00	1,546	1,546	1,546	24	100
13:00	1,628	1,628	1,628	24	100
14:00	1,738	**1,738**	1,738	24	100
15:00	1,593	**1,593**	1,593	24	100
16:00	1,539	**1,539**	1,539	24	100
17:00	1,499	**1,499**	1,499	24	100
18:00	1,480	1,480	1,480	24	100
19:00	1,466	1,466	1,466	24	100
20:00	1,395	1,395	1,395	24	100
21:00	1,274	1,274	1,274	24	100
22:00	1,039	1,039	1,039	24	100
23:00	1,032	1,032	1,032	24	100

SR 41 Northbound - South of 25th Avenue, Weekday

Time	Minimum	Mean	Maximum	# Lane Points	% Observed
00:00	106	110	113	48	100
01:00	80	93	101	48	100
02:00	40	51	59	48	100
03:00	35	37	43	48	100
04:00	37	42	53	48	100
05:00	62	71	81	48	100
06:00	88	93	97	48	100
07:00	129	**133**	138	48	100
08:00	134	**143**	153	48	100
09:00	170	177	186	48	100
10:00	180	197	210	48	100
11:00	212	218	226	48	100
12:00	219	247	264	48	100
13:00	241	258	284	48	100
14:00	258	288	335	36	100
15:00	275	310	363	36	100
16:00	320	**345**	383	36	100
17:00	235	**288**	356	36	100
18:00	175	217	264	35	100
19:00	155	177	207	36	100
20:00	110	129	143	36	100
21:00	115	132	153	36	100
22:00	94	111	121	36	100
23:00	96	111	124	36	100

Report Description

Report	Aggregates>Time of Day
Report link	*http://pems.dot.ca.gov/?report_form=1&dnode=VDS&content=loops&tab=det_tod&station_id=601535&s_time_id=1565827200&s_time_id_f=08%2F15%2F2019&e_time_id=1566518340&e_time_id_f=08%2F22%2F2019&dow_2=on&dow_3=on&dow_4=on&q=flow&fn=1&pct1=25&pct2=75*
Report generatec	08/22/2019 14:40
PeMS version	caltrans_pems-18.0.0

Report Parameters

Parameter	Value
Quantity	Flow
Data	1,031 Lane Points
Data Quality	100% Observed
Segment Type	VDS
Segment Name	Mainline VDS 601535 - RTE 41 N/O I-5 NB
start date	08/15/2019 00:00:00
end date	08/22/2019 14:40:31

SR 41 Northbound - South of 25th Avenue, Friday

Time	Minimum	Mean	Maximum	# Lane Points	% Observed
00:00	93	93	93	12	100
01:00	91	91	91	12	100
02:00	51	51	51	12	100
03:00	39	39	39	12	100
04:00	46	46	46	12	100
05:00	69	69	69	12	100
06:00	115	115	115	12	100
07:00	134	134	134	12	100
08:00	158	158	158	12	100
09:00	190	190	190	12	100
10:00	198	198	198	12	100
11:00	248	248	248	12	100
12:00	296	296	296	12	100
13:00	336	336	336	12	100
14:00	307	**307**	307	12	100
15:00	361	**361**	361	12	100
16:00	463	**463**	463	12	100
17:00	392	**392**	392	12	100
18:00	380	380	380	12	100
19:00	290	290	290	12	100
20:00	241	241	241	12	100
21:00	192	192	192	12	100
22:00	137	137	137	12	100
23:00	129	129	129	12	100

Report Description

Report	Aggregates>Time of Day
Report link	*http://pems.dot.ca.gov/?report_form=1&dnode=VDS&content=loops&tab=det_tod&station_id=601535&s_time_id=1565827200&s_time_id_f=08%2F15%2F2019&e_time_id=1566518340&e_time_id_f=08%2F22%2F2019&dow_5=on&q=flow&fn=1&pct1=25&pct2=75*
Report generatec	08/22/2019 15:33
PeMS version	caltrans_pems-18.0.0

Report Parameters

Parameter	Value
Quantity	Flow
Data	288 Lane Points
Data Quality	100% Observed
Segment Type	VDS
Segment Name	Mainline VDS 601535 - RTE 41 N/O I-5 NB
start date	08/15/2019 00:00:00
end date	08/22/2019 15:33:21

SR 41 Southbound - South of 25th Avenue, Weekday

Time	Minimum	Mean	Maximum	# Lane Points	% Observed
00:00	37	43	52	48	100
01:00	55	63	77	48	100
02:00	70	83	95	48	100
03:00	94	100	108	48	100
04:00	141	149	155	48	100
05:00	218	226	245	48	100
06:00	194	213	226	48	100
07:00	212	**236**	252	48	100
08:00	219	**230**	250	48	100
09:00	218	244	302	48	100
10:00	233	254	285	48	100
11:00	225	272	336	48	100
12:00	210	247	277	48	100
13:00	225	253	279	48	100
14:00	212	245	296	48	100
15:00	181	226	289	36	100
16:00	159	**197**	255	36	100
17:00	142	**183**	232	36	100
18:00	127	157	191	35	100
19:00	104	118	137	36	100
20:00	100	107	115	36	100
21:00	72	86	101	36	100
22:00	48	58	66	36	100
23:00	39	48	53	36	100

Report Description

Report	Aggregates>Time of Day
Report link	*http://pems.dot.ca.gov/?report_form=1&dnode=VDS&content=loops&tab=det_tod&station_id=602535&s_time_id=1565827200&s_time_id_f=08%2F15%2F2019&e_time_id=1566518340&e_time_id_f=08%2F22%2F2019&dow_5=on&q=flow&fn=1&pct1=25&pct2=75*
Report generatec	08/22/2019 16:00
PeMS version	caltrans_pems-18.0.0

Report Parameters

Parameter	Value
Quantity	Flow
Data	288 Lane Points
Data Quality	100% Observed
Segment Type	VDS
Segment Name	Mainline VDS 602535 - RTE 41 N/O I-5 SB
start date	08/15/2019 00:00:00
end date	08/22/2019 16:00:58

SR 41 Southbound - South of 25th Avenue, Friday

Time	Minimum	Mean	Maximum	# Lane Points	% Observed
00:00	38	38	38	12	100
01:00	56	56	56	12	100
02:00	87	87	87	12	100
03:00	101	101	101	12	100
04:00	164	164	164	12	100
05:00	218	218	218	12	100
06:00	213	213	213	12	100
07:00	215	215	215	12	100
08:00	259	259	259	12	100
09:00	375	375	375	12	100
10:00	402	402	402	12	100
11:00	486	486	486	12	100
12:00	395	395	395	12	100
13:00	460	460	460	12	100
14:00	408	**408**	408	12	100
15:00	391	**391**	391	12	100
16:00	483	**483**	483	12	100
17:00	453	**453**	453	12	100
18:00	406	406	406	12	100
19:00	318	318	318	12	100
20:00	221	221	221	12	100
21:00	149	149	149	12	100
22:00	100	100	100	12	100
23:00	90	90	90	12	100

Report Description

Report	Aggregates>Time of Day
Report link	*http://pems.dot.ca.gov/?report_form=1&dnode=VDS&content=loops&tab=det_tod&station_id=602535&s_time_id=1565827200&s_time_id_f=08%2F15%2F2019&e_time_id=1566518340&e_time_id_f=08%2F22%2F2019&dow_5=on&q=flow&fn=1&pct1=25&pct2=75*
Report generated	08/22/2019 16:00
PeMS version	caltrans_pems-18.0.0

Report Parameters

Parameter	Value
Quantity	Flow
Data	288 Lane Points
Data Quality	100% Observed
Segment Type	VDS
Segment Name	Mainline VDS 602535 - RTE 41 N/O I-5 SB
start date	08/15/2019 00:00:00
end date	08/22/2019 16:00:58

Truck % I-5 Northbound north of SR41, Weekday

Time	Minimum	Mean	Maximum	# Lane Points	% Observed
00:00	25	27	30	96	100
01:00	27	29	31	96	100
02:00	28	30	32	96	100
03:00	25	27	29	96	100
04:00	27	29	31	96	100
05:00	26	27	28	96	100
06:00	25	27	28	96	100
07:00	23	**24**	26	96	100
08:00	20	**23**	26	96	100
09:00	21	23	24	96	100
10:00	20	23	24	96	100
11:00	20	22	24	96	100
12:00	18	21	23	96	100
13:00	17	18	19	96	100
14:00	17	19	20	96	100
15:00	18	19	20	72	100
16:00	18	**21**	23	72	100
17:00	20	**21**	23	72	100
18:00	22	24	26	70	100
19:00	23	25	27	72	100
20:00	20	24	27	72	100
21:00	25	25	27	72	100
22:00	23	26	29	72	100
23:00	24	25	26	72	100

Report Description

Report	Aggregates>Time of Day
Report link	*http://pems.dot.ca.gov/?report_form=1&dnode=VDS&content=loops&tab=det_tod&station_id=601589&s_time_id=1565740800&s_time_id_f=08%2F14%2F2019&e_time_id=1566431940&e_time_id_f=08%2F21%2F2019&dow_2=on&dow_3=on&dow_4=on&q=truck_prop&fn=1&pct1=25&pct2=75*
Report generate	08/21/2019 15:18
PeMS version	caltrans_pems-18.0.0

Report Parameters

Parameter	Value
Quantity	Truck Proportion
Data	2,086 Lane Points
Data Quality	100% Observed
Segment Type	VDS
Segment Name	Mainline VDS 601589 - I-5 1.9 MI S/O RTE 269 NB
start date	08/14/2019 00:00:00
end date	08/21/2019 15:18:44

Truck % I-5 Northbound north of SR41, Friday

Time	Minimum	Mean	Maximum	# Lane Points	% Observed
00:00	27	27	27	24	100
01:00	29	29	29	24	100
02:00	30	30	30	24	100
03:00	29	29	29	24	100
04:00	28	28	28	24	100
05:00	25	25	25	24	100
06:00	24	24	24	24	100
07:00	19	19	19	24	100
08:00	19	19	19	24	100
09:00	18	18	18	24	100
10:00	17	17	17	24	100
11:00	17	17	17	24	100
12:00	16	16	16	24	100
13:00	15	15	15	24	100
14:00	16	**16**	16	24	100
15:00	15	**15**	15	24	100
16:00	16	**16**	16	24	100
17:00	17	**17**	17	24	100
18:00	17	17	17	24	100
19:00	18	18	18	24	100
20:00	18	18	18	24	100
21:00	19	19	19	24	100
22:00	17	17	17	24	100
23:00	20	20	20	24	100

Truck % I-5 Northbound north of Utica, Weekday

Time	Minimum	Mean	Maximum	# Lane Points	% Observed
00:00	19	24	28	96	100
01:00	18	26	31	96	100
02:00	18	25	29	96	100
03:00	20	25	27	96	100
04:00	20	25	29	96	100
05:00	21	25	26	96	100
06:00	22	24	27	96	100
07:00	18	**22**	25	96	100
08:00	18	**22**	24	96	100
09:00	21	22	23	96	100
10:00	20	22	24	96	100
11:00	20	22	24	96	100
12:00	17	20	22	96	100
13:00	18	18	19	96	100
14:00	16	18	20	72	100
15:00	17	19	20	72	100
16:00	19	**21**	23	72	100
17:00	20	**21**	23	72	100
18:00	22	24	25	70	100
19:00	24	25	27	72	100
20:00	22	23	25	72	100
21:00	25	25	25	72	100
22:00	22	24	26	72	100
23:00	20	24	26	72	100

Report Description

Report	Aggregates>Time of Day
Report link	*http://pems.dot.ca.gov/?report_form=1&dnode=VDS&content=loops&tab=det_tod&station_id=601506&s_time_id=1565740800&s_time_id_f=08%2F14%2F2019&e_time_id=1566431940&e_time_id_f=08%2F21%2F2019&dow_2=on&dow_3=on&dow_4=on&q=truck_prop&fn=1&pct1=25&pct2=75*
Report generate	08/21/2019 14:39
PeMS version	caltrans_pems-18.0.0

Report Parameters

Parameter	Value
Quantity	Truck Proportion
Data	2,062 Lane Points
Data Quality	100% Observed
Segment Type	VDS
Segment Name	Mainline VDS 601506 - N OF UTICA
start date	08/14/2019 00:00:00
end date	08/21/2019 14:39:39

Truck % I-5 Northbound north of Utica, Friday

Time	Minimum	Mean	Maximum	# Lane Points	% Observed
00:00	25	25	25	24	100
01:00	27	27	27	24	100
02:00	27	27	27	24	100
03:00	28	28	28	24	100
04:00	22	22	22	24	100
05:00	19	19	19	24	100
06:00	18	18	18	24	100
07:00	18	18	18	24	100
08:00	15	15	15	24	100
09:00	16	16	16	24	100
10:00	16	16	16	24	100
11:00	15	15	15	24	100
12:00	14	14	14	24	100
13:00	15	15	15	24	100
14:00	14	**14**	14	24	100
15:00	15	**15**	15	24	100
16:00	15	**15**	15	24	100
17:00	17	**17**	17	24	100
18:00	16	16	16	24	100
19:00	17	17	17	24	100
20:00	18	18	18	24	100
21:00	18	18	18	24	100
22:00	18	18	18	24	100
23:00	18	18	18	24	100

Report Description

Report	Aggregates>Time of Day
Report link	*http://pems.dot.ca.gov/?report_form=1&dnode=VDS&content=loops&tab=det_tod&station_id=601506&s_time_id=1565740800&s_time_id_f=08%2F14%2F2019&e_time_id=1566431940&e_time_id_f=08%2F21%2F2019&dow_5=on&q=truck_prop&fn=1&pct1=25&pct2=75*
Report generate	08/21/2019 14:43
PeMS version	caltrans_pems-18.0.0

Report Parameters

Parameter	Value
Quantity	Truck Proportion
Data	576 Lane Points
Data Quality	100% Observed
Segment Type	VDS
Segment Name	Mainline VDS 601506 - N OF UTICA
start date	08/14/2019 00:00:00
end date	08/21/2019 14:43:33

I-5 Southbound, north of SR41, Weekday

Time	Minimum	Mean	Maximum	# Lane Points	% Observed
00:00	25	27	29	96	100
01:00	26	28	29	96	100
02:00	27	28	29	96	100
03:00	27	29	30	96	100
04:00	26	28	29	96	100
05:00	23	26	27	96	100
06:00	23	24	27	96	100
07:00	22	**23**	25	96	100
08:00	19	**20**	21	96	100
09:00	18	19	20	96	100
10:00	18	19	20	96	100
11:00	17	18	20	96	100
12:00	16	18	19	96	100
13:00	17	17	18	72	100
14:00	17	18	19	72	100
15:00	18	19	19	72	100
16:00	19	**20**	20	72	100
17:00	18	**20**	21	72	100
18:00	20	21	22	70	100
19:00	20	22	23	72	100
20:00	20	21	23	72	100
21:00	19	22	24	72	100
22:00	17	21	23	72	100
23:00	20	24	27	72	100

Report Description

Report	Aggregates>Time of Day
Report link	http://pems.dot.ca.gov/?report_form=1&dnode=VDS&content=loops&tab=det_tod&station_id=602589&s_time_id=1565827200&s_time_id_f=08%2F15%2F2019&e_time_id=1566518340&e_time_id_f=08%2F22%2F2019&dow_2=on&dow_3=on&dow_4=on&q=truck_prop&fn=1&pct1=25&pct2=75
Report generated	8/22/2019 13:22
PeMS version	**caltrans_pems-18.0.0**

Report Parameters

Parameter	Value
Quantity	Truck Proportion
Data	2,038 Lane Points
Data Quality	100% Observed
Segment Type	VDS
Segment Name	Mainline VDS 602589 - I-5 1.9 MI S/O RTE 269 SB
start date	8/15/2019 0:00
end date	8/22/2019 13:22

I-5 Southbound, north of SR41, Friday

Time	Minimum	Mean	Maximum	# Lane Points	% Observed
00:00	25	25	25	24	100
01:00	25	25	25	24	100
02:00	23	23	23	24	100
03:00	27	27	27	24	100
04:00	26	26	26	24	100
05:00	24	24	24	24	100
06:00	19	19	19	24	100
07:00	18	18	18	24	100
08:00	15	15	15	24	100
09:00	13	13	13	24	100
10:00	14	14	14	24	100
11:00	14	14	14	24	100
12:00	14	14	14	24	100
13:00	14	14	14	24	100
14:00	15	**15**	15	24	100
15:00	16	**16**	16	24	100
16:00	14	**14**	14	24	100
17:00	15	**15**	15	24	100
18:00	16	16	16	24	100
19:00	14	14	14	24	100
20:00	13	13	13	24	100
21:00	15	15	15	24	100
22:00	14	14	14	24	100
23:00	14	14	14	24	100

Trucks % I-5 Southbound, north of Utica, Weekdays

Time	Minimum	Mean	Maximum	# Lane Points	% Observed
00:00	25	26	27	96	100
01:00	25	27	29	96	100
02:00	25	29	31	96	100
03:00	28	29	30	96	100
04:00	28	29	32	96	100
05:00	24	26	29	96	100
06:00	25	26	27	96	100
07:00	21	**24**	27	96	100
08:00	19	**21**	23	96	100
09:00	17	19	20	96	100
10:00	19	20	21	96	100
11:00	18	19	20	96	100
12:00	17	18	19	72	100
13:00	18	18	18	72	100
14:00	18	19	20	72	100
15:00	19	20	20	72	100
16:00	18	**20**	21	72	100
17:00	19	**20**	21	72	100
18:00	21	22	23	70	100
19:00	21	22	23	72	100
20:00	20	23	24	72	100
21:00	20	22	23	72	100
22:00	19	22	23	72	100
23:00	19	23	25	72	100

Report Description

Report	Aggregates>Time of Day
Report link	*http://pems.dot.ca.gov/?report_form=1&dnode=VDS&content=loops&tab=det_tod&station_id=602506&s_time_id=1565827200&s_time_id_f=08%2F15%2F2019&e_time_id=1566518340&e_time_id_f=08%2F22%2F2019&dow_2=on&dow_3=on&dow_4=on&q=truck_prop&fn=1&pct1=25&pct2=75*
Report generatec	08/22/2019 12:18
PeMS version	caltrans_pems-18.0.0

Report Parameters

Parameter	Value
Quantity	Truck Proportion
Data	2,014 Lane Points
Data Quality	100% Observed
Segment Type	VDS
Segment Name	Mainline VDS 602506 - N OF UTICA
start date	08/15/2019 00:00:00
end date	08/22/2019 12:18:44

Trucks % I-5 Southbound, north of Utica, Friday

Time	Minimum	Mean	Maximum	# Lane Points	% Observed
00:00	23	23	23	24	100
01:00	24	24	24	24	100
02:00	24	24	24	24	100
03:00	27	27	27	24	100
04:00	21	21	21	24	100
05:00	24	24	24	24	100
06:00	22	22	22	24	100
07:00	18	18	18	24	100
08:00	14	14	14	24	100
09:00	14	14	14	24	100
10:00	15	15	15	24	100
11:00	15	15	15	24	100
12:00	16	16	16	24	100
13:00	16	16	16	24	100
14:00	15	**15**	15	24	100
15:00	15	**15**	15	24	100
16:00	17	**17**	17	24	100
17:00	16	**16**	16	24	100
18:00	16	16	16	24	100
19:00	15	15	15	24	100
20:00	13	13	13	24	100
21:00	15	15	15	24	100
22:00	16	16	16	24	100
23:00	14	14	14	24	100

Report Description

Report	Aggregates>Time of Day
Report link	*http://pems.dot.ca.gov/?report_form=1&dnode=VDS&content=loops&tab=det_tod&station_id=602506&s_time_id=1565827200&s_time_id_f=08%2F15%2F2019&e_time_id=1566518340&e_time_id_f=08%2F22%2F2019&dow_5=on&q=truck_prop&fn=1&pct1=25&pct2=75*
Report generated	08/22/2019 12:17
PeMS version	caltrans_pems-18.0.0

Report Parameters

Parameter	Value
Quantity	Truck Proportion
Data	576 Lane Points
Data Quality	100% Observed
Segment Type	VDS
Segment Name	Mainline VDS 602506 - N OF UTICA
start date	08/15/2019 00:00:00
end date	08/22/2019 12:17:13

APPENDIX E: FREEWAY LOS CALCULATION OUTPUTS, EXISTING CONDITIONS

HCS7 Basic Freeway Report

Project Information

Analyst	FS	Date	8/23/2019
Agency		Analysis Year	Existing (2019)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	AM Peak Hour
Project Description	I-5 Northbound n SR41	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	780	Heavy Vehicle Adjustment Factor (f_{HV})	0.813
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	522
Total Trucks, %	23.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.22
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.2
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	FS	Date	8/23/2019
Agency		Analysis Year	Existing (2019)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	FRI Peak Hour
Project Description	I-5 Northbound n SR41	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1728	Heavy Vehicle Adjustment Factor (f_{HV})	0.862
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1090
Total Trucks, %	16.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.45
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	15.1
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	FS	Date	8/23/2019
Agency		Analysis Year	Existing (2019)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	PM Peak Hour
Project Description	I-5 Northbound n SR41	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1218	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	794
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.33
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.0
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	FS	Date	8/20/2019
Agency		Analysis Year	Existing (2019)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	Weekday AM Peak Hour
Project Description	I-5 Northbound s/o Utica	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	798	Heavy Vehicle Adjustment Factor (f_{HV})	0.820
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	529
Total Trucks, %	22.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.22
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.3
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	FS	Date	8/23/2019
Agency		Analysis Year	Existing (2019)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	Friday Peak Hour
Project Description	I-5 Northbound s/o Utica	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1651	Heavy Vehicle Adjustment Factor (f_{HV})	0.855
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1050
Total Trucks, %	17.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.44
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	14.5
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	FS	Date	8/23/2019
Agency		Analysis Year	Existing (2019)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	Weekday PM Peak Hour
Project Description	I-5 Northbound s/o Utica	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1199	Heavy Vehicle Adjustment Factor (f_{HV})	0.820
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	794
Total Trucks, %	22.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.33
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.0
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	FS	Date	8/23/2019
Agency		Analysis Year	Existing (2019)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	AM Peak Hour
Project Description	I-5 Northbound Utica to SR41	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	798	Heavy Vehicle Adjustment Factor (f_{HV})	0.820
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	529
Total Trucks, %	22.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.22
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.3
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	FS	Date	8/23/2019
Agency		Analysis Year	Existing (2019)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	PM Peak Hour
Project Description	I-5 Northbound Utica to SR41	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1651	Heavy Vehicle Adjustment Factor (f_{HV})	0.855
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1050
Total Trucks, %	17.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.44
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	14.5
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	FS	Date	8/23/2019
Agency		Analysis Year	Existing (2019)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	PM Peak Hour
Project Description	I-5 Northbound Utica to SR41	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1199	Heavy Vehicle Adjustment Factor (f_{HV})	0.826
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	789
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.33
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	10.9
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	FS	Date	8/23/2019
Agency		Analysis Year	Existing (2019)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	FRI Peak Hour
Project Description	I-5 Southbound n SR41	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	898	Heavy Vehicle Adjustment Factor (f_{HV})	0.813
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	600
Total Trucks, %	23.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.25
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	8.3
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	FS	Date	8/23/2019
Agency		Analysis Year	Existing (2019)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	FRI Peak Hour
Project Description	I-5 Southbound n SR41	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1760	Heavy Vehicle Adjustment Factor (f_{HV})	0.862
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1110
Total Trucks, %	16.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.46
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	15.4
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	FS	Date	8/23/2019
Agency		Analysis Year	Existing (2019)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	PM Peak Hour
Project Description	I-5 Southbound n SR41	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1186	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	774
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.32
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	10.7
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	FS	Date	8/23/2019
Agency		Analysis Year	Existing (2019)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	Weekday AM Peak Hour
Project Description	I-5 Southbound s/o Utica	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	874	Heavy Vehicle Adjustment Factor (f_{HV})	0.806
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	590
Total Trucks, %	24.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.25
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	8.2
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	FS	Date	8/23/2019
Agency		Analysis Year	Existing (2019)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	Friday Peak Hour
Project Description	I-5 Southbound s/o Utica	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1738	Heavy Vehicle Adjustment Factor (f_{HV})	0.855
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1105
Total Trucks, %	17.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.46
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	15.3
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	FS	Date	8/23/2019
Agency		Analysis Year	Existing (2019)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	Weekday PM Peak Hour
Project Description	I-5 Southbound s/o Utica	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1203	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	785
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.33
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	10.9
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	FS	Date	8/23/2019
Agency		Analysis Year	Existing (2019)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	AM Peak Hour
Project Description	I-5 Southbound Utica to SR41	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	874	Heavy Vehicle Adjustment Factor (f_{HV})	0.806
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	590
Total Trucks, %	24.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.25
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	8.2
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	FS	Date	8/23/2019
Agency		Analysis Year	Existing (2019)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	FRI Peak Hour
Project Description	I-5 Southbound Utica to SR41	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1738	Heavy Vehicle Adjustment Factor (f_{HV})	0.855
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1105
Total Trucks, %	17.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.46
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	15.3
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	FS	Date	8/23/2019
Agency		Analysis Year	Existing (2019)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	PM Peak Hour
Project Description	I-5 Southbound Utica to SR41	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1203	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	785
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.33
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	10.9
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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APPENDIX F: INTERSECTION VOLUMES, DELAY, AND LOS CALCULATION OUTPUTS, 2023 CONDITIONS

Intersection Level Of Service Report
Intersection 1: South Bound I-5 at SR-41 Ramps

Control Type:	Signalized	Delay (sec / veh):	16.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.142

Intersection Setup

Name													
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No					
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name													
Base Volume Input [veh/h]	0	102	5	2	67	146	0	69	2	18	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	23.00	23.00	23.00	23.00	23.00	2.00	23.00	23.00	23.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0820	1.0820	1.082	1.082	1.082	1.000	1.0820	1.0820	1.0820	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	110	5	2	72	158	0	75	2	19	0	0	0
Peak Hour Factor	1.0000	0.9500	0.9500	0.950	0.950	0.950	1.000	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	29	1	1	19	42	0	20	1	5	0	0	0
Total Analysis Volume [veh/h]	0	116	5	2	76	166	0	79	2	20	0	0	0
Presence of On-Street Parking	No		No	No			No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0		
v_co, Outbound Pedestrian Volume crossing		0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0		
Bicycle Volume [bicycles/h]		0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	4	0	0	0	0
Auxiliary Signal Groups													
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	19	0	0	14	33	0	0	27	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	6	0	0	0	6	0	0	18	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No			No	No			No				
Maximum Recall		No			No	No			No				
Pedestrian Recall		No			No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	L	C	L	C	
C, Cycle Length [s]	60	60	60	60	60	60	60	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	39	39	5	5	48	4	4	
g / C, Green / Cycle	0.65	0.65	0.09	0.09	0.80	0.07	0.07	
(v / s)_i Volume / Saturation Flow Rate	0.04	0.04	0.06	0.06	0.06	0.04	0.04	
s, saturation flow rate [veh/h]	1399	1379	1333	1333	2664	1333	1274	
c, Capacity [veh/h]	900	888	116	116	2124	93	89	
d1, Uniform Delay [s]	4.00	4.00	26.62	26.58	1.32	27.06	27.09	
k, delay calibration	0.50	0.50	0.11	0.11	0.50	0.11	0.11	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.14	0.15	6.53	6.08	0.07	4.94	5.48	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.07	0.07	0.67	0.65	0.08	0.55	0.56	
d, Delay for Lane Group [s/veh]	4.14	4.15	33.15	32.66	1.39	32.00	32.57	
Lane Group LOS	A	A	C	C	A	C	C	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	0.23	0.23	1.24	1.19	0.06	0.80	0.79	
50th-Percentile Queue Length [ft/ln]	5.70	5.72	30.89	29.82	1.61	19.95	19.87	
95th-Percentile Queue Length [veh/ln]	0.41	0.41	2.22	2.15	0.12	1.44	1.43	
95th-Percentile Queue Length [ft/ln]	10.27	10.30	55.60	53.68	2.90	35.91	35.76	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	4.14	4.15	33.15	32.90	1.39	0.00	32.21	32.57	32.57	0.00	0.00	0.00
Movement LOS		A	A	C	C	A		C	C	C			
d_A, Approach Delay [s/veh]		4.14			16.56				32.28			0.00	
Approach LOS		A			B				C			A	
d_I, Intersection Delay [s/veh]	16.72												
Intersection LOS	B												
Intersection V/C	0.142												

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	21.68
l_p,int, Pedestrian LOS Score for Intersection	2.187	2.505	1.954	1.736
Crosswalk LOS	B	B	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	500	967	767	0
d_b, Bicycle Delay [s]	16.88	8.01	11.41	30.00
l_b,int, Bicycle LOS Score for Intersection	1.659	1.698	1.726	4.132
Bicycle LOS	A	A	A	D

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: North Bound I-5 at SR-41 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	14.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	24	149	0	0	186	63	0	0	0	27	2	85
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	23.00	23.00	23.00	23.00	23.00	23.00	2.00	2.00	2.00	23.00	23.00	23.00
Growth Factor	1.0820	1.0820	1.0820	1.0820	1.0820	1.0820	1.0000	1.0000	1.0000	1.0820	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	161	0	0	201	68	0	0	0	29	2	92
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	42	0	0	53	18	0	0	0	8	1	24
Total Analysis Volume [veh/h]	27	169	0	0	212	72	0	0	0	31	2	97
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median	0	0	0	0

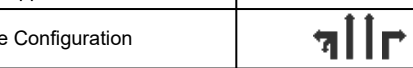
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.11
d_M, Delay for Movement [s/veh]	8.25	0.00	0.00	7.84	0.00	0.00	0.00	0.00	0.00	12.12	14.24	9.55
Movement LOS	A	A	A	A	A	A				B	B	A
95th-Percentile Queue Length [veh/ln]	0.07	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.38	0.38
95th-Percentile Queue Length [ft/ln]	1.82	0.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.59	9.55	9.55
d_A, Approach Delay [s/veh]	1.14			0.00			0.00			10.24		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	2.55											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 3: Bernard Drive at SR-41

Control Type:	Signalized	Delay (sec / veh):	28.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.292

Intersection Setup

Name														
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				No			No		

Volumes

Name														
Base Volume Input [veh/h]	39	39	115	21	0	43	132	8	5	10	38	49	5	18
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00
Growth Factor	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.0820	1.0820	1.0820	1.0820	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	42	42	124	23	0	47	143	9	5	11	41	53	5	19
Peak Hour Factor	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	11	33	6	0	12	38	2	1	3	11	14	1	5
Total Analysis Volume [veh/h]	44	44	131	24	0	49	151	9	5	12	43	56	5	20
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups														
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	30	0	0	30	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	19	19	0	0	15	15	0	0	15	0	0	21	0
Vehicle Extension [s]	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	5	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	10	0	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	42	42	3	40	4	5
g / C, Green / Cycle	0.08	0.60	0.60	0.04	0.57	0.05	0.07
(v / s)_i Volume / Saturation Flow Rate	0.07	0.05	0.02	0.04	0.12	0.05	0.06
s, saturation flow rate [veh/h]	1333	2664	1189	1333	1386	1238	1298
c, Capacity [veh/h]	105	1595	712	60	783	67	96
d1, Uniform Delay [s]	31.82	5.93	5.75	33.16	7.49	32.92	32.01
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	15.99	0.10	0.09	23.25	0.59	30.95	17.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.08	0.03	0.82	0.20	0.90	0.84
d, Delay for Lane Group [s/veh]	47.81	6.03	5.84	56.40	8.08	63.87	49.48
Lane Group LOS	D	A	A	E	A	E	D
Critical Lane Group	Yes	No	No	No	Yes	Yes	Yes
50th-Percentile Queue Length [veh/ln]	1.88	0.36	0.14	1.18	1.13	1.55	1.77
50th-Percentile Queue Length [ft/ln]	47.06	8.99	3.43	29.60	28.32	38.80	44.33
95th-Percentile Queue Length [veh/ln]	3.39	0.65	0.25	2.13	2.04	2.79	3.19
95th-Percentile Queue Length [ft/ln]	84.70	16.18	6.18	53.27	50.97	69.84	79.80

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	47.81	47.81	6.03	5.84	56.40	56.40	8.08	8.08	63.87	63.87	63.87	49.48	49.48	49.48
Movement LOS	D	D	A	A	E	E	A	A	E	E	E	D	D	D
d_A, Approach Delay [s/veh]	21.14				19.41				63.87			49.48		
Approach LOS	C				B				E			D		
d_I, Intersection Delay [s/veh]	28.72													
Intersection LOS	C													
Intersection V/C	0.292													

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	26.58	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.209	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	429	314	314	486
d_b, Bicycle Delay [s]	21.61	24.86	24.86	20.06
l_b,int, Bicycle LOS Score for Intersection	1.724	1.824	1.659	1.693
Bicycle LOS	A	A	A	A

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: 25th Avenue at SR-41

Control Type:	Two-way stop	Delay (sec / veh):	10.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.020

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	113	4	8	181	11	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0820	1.0820	1.0820	1.0820	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	122	4	9	196	12	22
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	1	2	52	3	6
Total Analysis Volume [veh/h]	128	4	9	206	13	23
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.02	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	7.49	0.00	10.75	9.01
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.02	0.06	0.08
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.47	0.47	1.56	1.92
d_A, Approach Delay [s/veh]	0.00		0.31		9.64	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.08					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Utica Avenue at South Bound 25th Street

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	4	12	14	0	6	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	23.00	23.00	23.00	23.00	23.00	23.00
Growth Factor	1.0820	1.0820	1.0820	1.0820	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	13	15	0	6	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	3	4	0	2	1
Total Analysis Volume [veh/h]	4	14	16	0	6	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.94	8.65	0.00	0.00	7.45	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	1.39	1.39	0.00	0.00	0.31	0.31
d_A, Approach Delay [s/veh]	8.71		0.00		5.59	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.80					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Utica Avenue at South Bound I-5 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	15	3	4	0	12	15	0	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	23.00	23.00	23.00	2.00	23.00	23.00	23.00	23.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0820	1.0820	1.0820	1.0000	1.0820	1.0820	1.0820	1.0820	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	16	3	4	0	13	16	0	4	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	4	1	1	0	3	4	0	1	0
Total Analysis Volume [veh/h]	0	0	0	17	3	4	0	14	17	0	4	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop			Stop			Free			Free		
Flared Lane				No								
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance				No								
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	8.96	9.50	8.63	0.00	0.00	0.00	7.47	0.00	0.00
Movement LOS				A	A	A		A	A	A	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.08	0.08	0.08	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	1.99	1.99	1.99	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			8.97			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.65											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 7: Utica Avenue at North Bound I-5 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	1	8	4	0	0	0	9	22	0	0	3	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	23.00	23.00	23.00	2.00	2.00	2.00	23.00	23.00	2.00	2.00	23.00	23.00
Growth Factor	1.0820	1.0820	1.0820	1.0000	1.0000	1.0000	1.0820	1.0820	1.0000	1.0000	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	9	4	0	0	0	10	24	0	0	3	25
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	1	0	0	0	3	6	0	0	1	7
Total Analysis Volume [veh/h]	1	9	4	0	0	0	11	25	0	0	3	26
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No			
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.19	9.75	8.70	0.00	0.00	0.00	7.49	0.00	0.00	0.00	0.00	0.00
Movement LOS	A	A	A				A	A			A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.05	0.00	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.29	1.29	1.29	0.00	0.00	0.00	0.57	0.57	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.41			0.00			2.29			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.71											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 8: Utica Avenue at Frontage Road

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	23	24	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	23.00	23.00	23.00	23.00	23.00	23.00
Growth Factor	1.0820	1.0820	1.0820	1.0820	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	25	26	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	7	7	0
Total Analysis Volume [veh/h]	0	0	0	26	27	0
Pedestrian Volume [ped/h]	0		0		0	

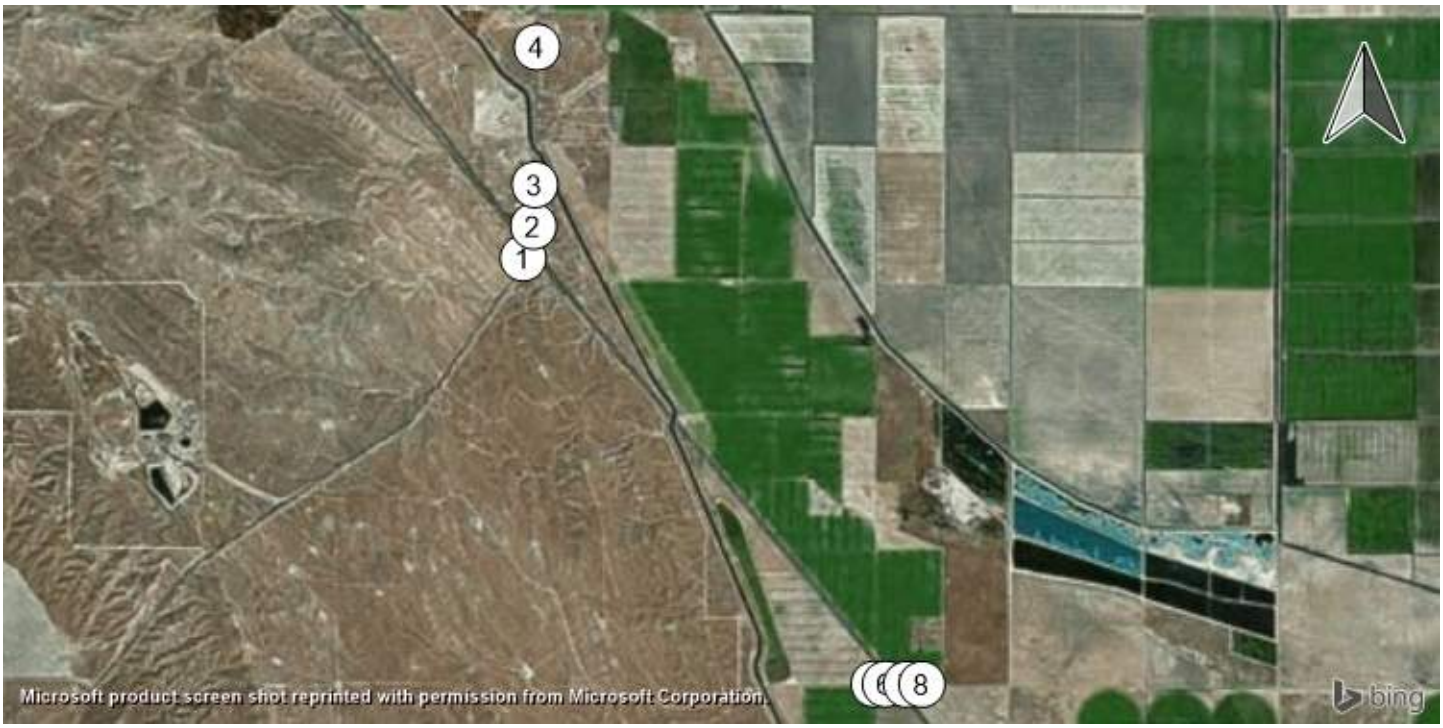
Intersection Settings

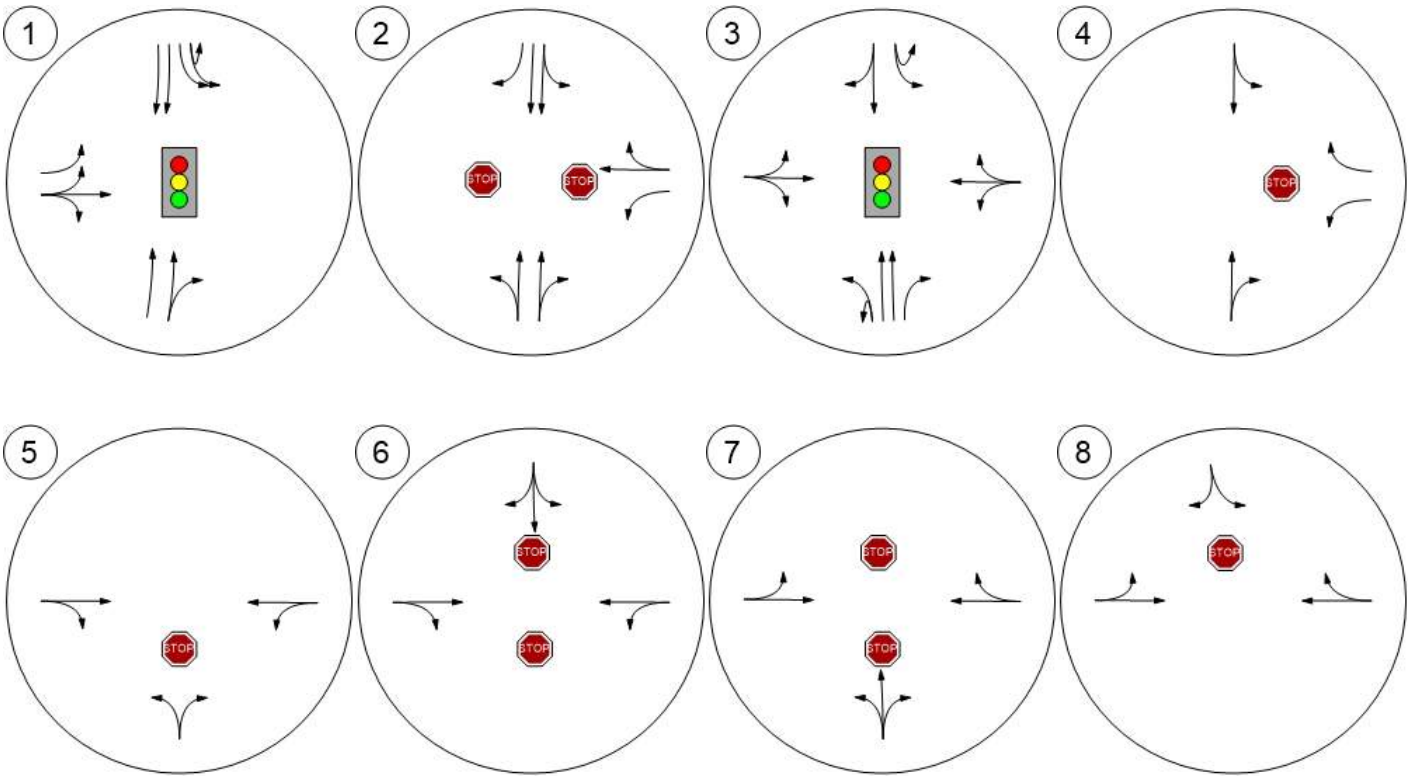
Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

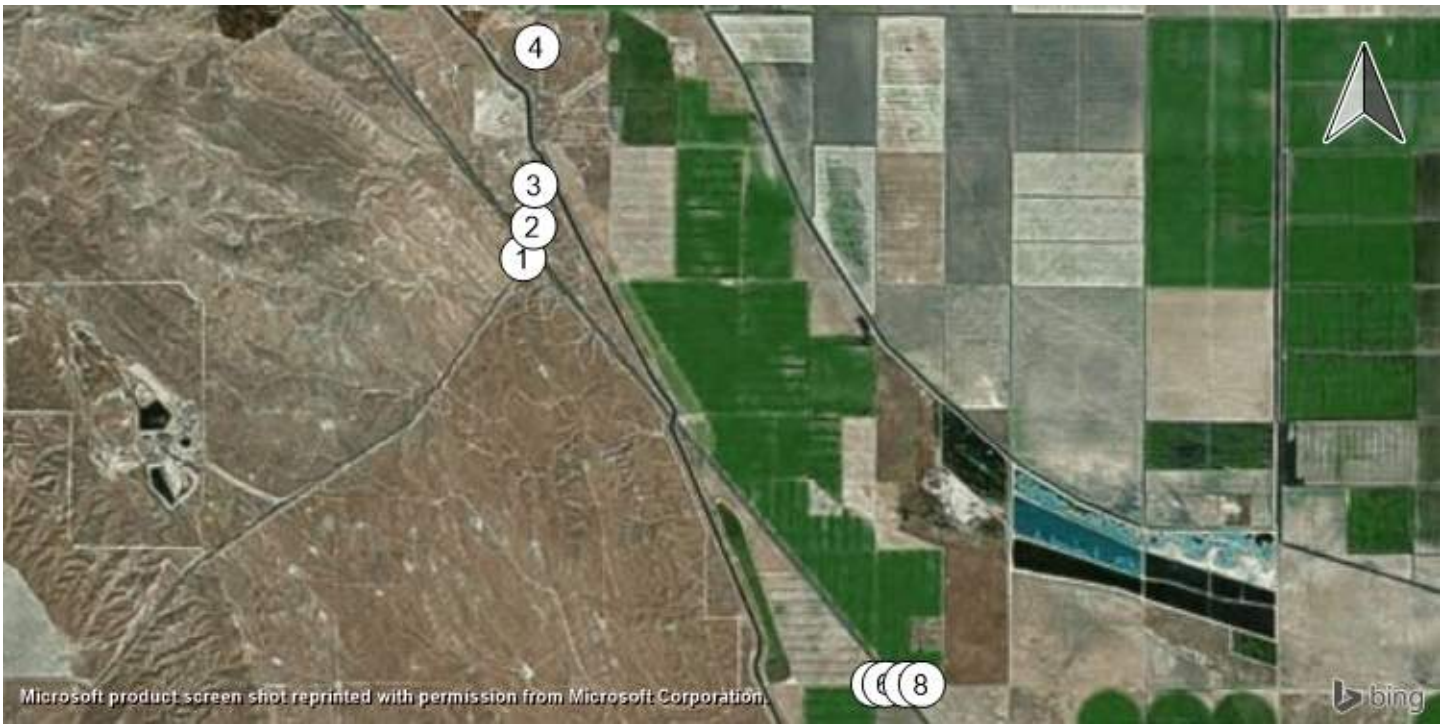
V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.98	8.63	7.46	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.80		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

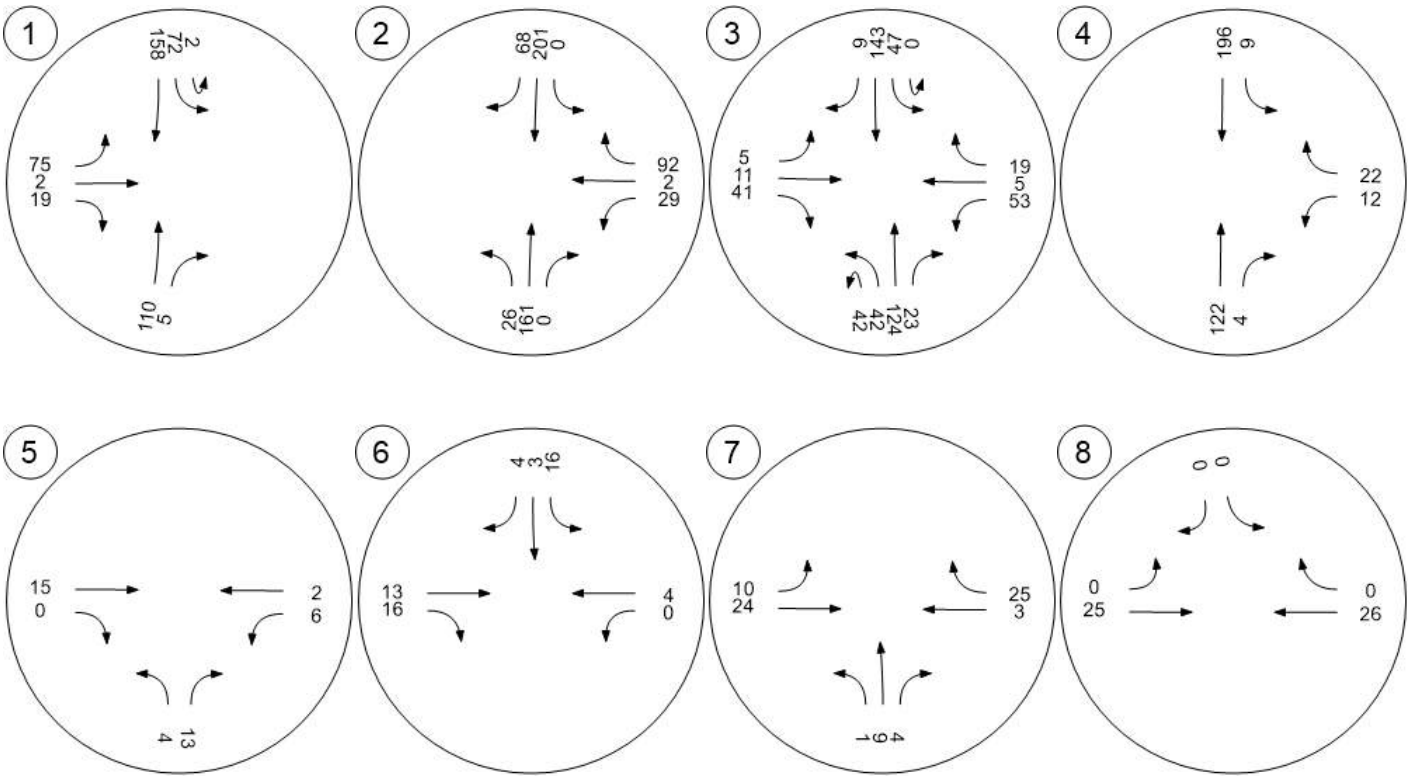
Lane Configuration and Traffic Control





Traffic Volume - Future Total Volume





Intersection Level Of Service Report
Intersection 1: South Bound I-5 at SR-41 Ramps

Control Type:	Signalized	Delay (sec / veh):	16.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.292

Intersection Setup

Name													
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No					
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name													
Base Volume Input [veh/h]	0	251	38	4	145	294	0	98	7	63	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	11.00	11.00	11.00	11.00	11.00	2.00	11.00	11.00	11.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0820	1.0820	1.082	1.082	1.082	1.000	1.0820	1.0820	1.0820	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	272	41	4	157	318	0	106	8	68	0	0	0
Peak Hour Factor	1.0000	0.9500	0.9500	0.950	0.950	0.950	1.000	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	72	11	1	41	84	0	28	2	18	0	0	0
Total Analysis Volume [veh/h]	0	286	43	4	165	335	0	112	8	72	0	0	0
Presence of On-Street Parking	No		No	No			No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0		
v_co, Outbound Pedestrian Volume crossing		0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0		
Bicycle Volume [bicycles/h]		0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	4	0	0	0	0
Auxiliary Signal Groups													
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	15	0	0	16	31	0	0	29	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	6	0	0	0	6	0	0	18	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No			No	No			No				
Maximum Recall		No			No	No			No				
Pedestrian Recall		No			No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	L	C	L	C	
C, Cycle Length [s]	60	60	60	60	60	60	60	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	33	33	9	9	46	6	6	
g / C, Green / Cycle	0.55	0.55	0.15	0.15	0.76	0.10	0.10	
(v / s)_i Volume / Saturation Flow Rate	0.11	0.11	0.11	0.11	0.11	0.07	0.07	
s, saturation flow rate [veh/h]	1561	1493	1487	1487	2973	1487	1366	
c, Capacity [veh/h]	858	820	219	219	2270	153	141	
d1, Uniform Delay [s]	6.80	6.84	24.62	24.54	1.89	25.84	25.90	
k, delay calibration	0.50	0.50	0.11	0.11	0.50	0.11	0.11	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.50	0.55	5.70	5.20	0.14	4.44	5.23	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.19	0.20	0.77	0.75	0.15	0.64	0.66	
d, Delay for Lane Group [s/veh]	7.30	7.39	30.32	29.74	2.03	30.29	31.13	
Lane Group LOS	A	A	C	C	A	C	C	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	0.97	0.98	2.51	2.42	0.24	1.47	1.41	
50th-Percentile Queue Length [ft/ln]	24.14	24.42	62.68	60.47	6.01	36.64	35.36	
95th-Percentile Queue Length [veh/ln]	1.74	1.76	4.51	4.35	0.43	2.64	2.55	
95th-Percentile Queue Length [ft/ln]	43.45	43.96	112.82	108.85	10.82	65.96	63.65	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	7.34	7.39	30.32	30.03	2.03	0.00	30.40	31.13	31.13	0.00	0.00	0.00
Movement LOS		A	A	C	C	A		C	C	C			
d_A, Approach Delay [s/veh]		7.34			16.01				30.70			0.00	
Approach LOS		A			B				C			A	
d_I, Intersection Delay [s/veh]	15.98												
Intersection LOS	B												
Intersection V/C	0.292												

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	21.68
l_p,int, Pedestrian LOS Score for Intersection	2.291	2.580	1.983	1.801
Crosswalk LOS	B	B	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	367	900	833	0
d_b, Bicycle Delay [s]	20.01	9.08	10.21	30.00
l_b,int, Bicycle LOS Score for Intersection	1.831	1.839	1.876	4.132
Bicycle LOS	A	A	A	D

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: North Bound I-5 at SR-41 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	26.4
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	47	335	0	0	395	147	0	0	0	20	2	181
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.00	11.00	11.00	11.00	11.00	11.00	2.00	2.00	2.00	11.00	11.00	11.00
Growth Factor	1.0820	1.0820	1.0820	1.0820	1.0820	1.0820	1.0000	1.0000	1.0000	1.0820	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	51	362	0	0	427	159	0	0	0	22	2	196
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	95	0	0	112	42	0	0	0	6	1	52
Total Analysis Volume [veh/h]	54	381	0	0	449	167	0	0	0	23	2	206
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median	0	0	0	0

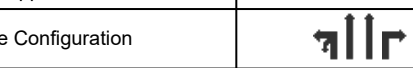
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.01	0.26
d_M, Delay for Movement [s/veh]	9.25	0.00	0.00	8.24	0.00	0.00	0.00	0.00	0.00	18.89	26.43	11.28
Movement LOS	A	A	A	A	A	A				C	D	B
95th-Percentile Queue Length [veh/ln]	0.19	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26	1.10	1.10
95th-Percentile Queue Length [ft/ln]	4.77	2.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.61	27.47	27.47
d_A, Approach Delay [s/veh]	1.15			0.00			0.00			12.17		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	2.58											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 3: Bernard Drive at SR-41

Control Type:	Signalized	Delay (sec / veh):	27.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.536

Intersection Setup

Name														
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				No			No		

Volumes

Name														
Base Volume Input [veh/h]	110	47	270	49	1	71	245	13	7	9	58	153	7	47
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00
Growth Factor	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.0820	1.0820	1.0820	1.0820	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	119	51	292	53	1	77	265	14	8	10	63	166	8	51
Peak Hour Factor	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	13	77	14	0	20	70	4	2	3	17	44	2	13
Total Analysis Volume [veh/h]	125	54	307	56	1	81	279	15	8	11	66	175	8	54
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups														
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	30	0	0	30	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	16	28	0	0	11	23	0	0	10	0	0	21	0
Vehicle Extension [s]	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	5	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	10	0	0	0	10	0	0	10	0	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	31	31	5	26	5	13
g / C, Green / Cycle	0.14	0.44	0.44	0.07	0.37	0.07	0.19
(v / s)_i Volume / Saturation Flow Rate	0.12	0.10	0.04	0.06	0.19	0.06	0.16
s, saturation flow rate [veh/h]	1487	2973	1327	1487	1547	1368	1450
c, Capacity [veh/h]	212	1313	586	100	567	100	274
d1, Uniform Delay [s]	29.23	12.16	11.39	32.23	17.36	32.06	27.50
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.73	0.42	0.32	15.03	3.37	17.55	7.93
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.23	0.10	0.82	0.52	0.85	0.86
d, Delay for Lane Group [s/veh]	37.96	12.58	11.71	47.26	20.73	49.61	35.43
Lane Group LOS	D	B	B	D	C	D	D
Critical Lane Group	Yes	No	No	No	Yes	Yes	Yes
50th-Percentile Queue Length [veh/ln]	3.32	1.44	0.52	1.74	3.95	1.86	4.26
50th-Percentile Queue Length [ft/ln]	83.02	35.93	12.94	43.54	98.81	46.49	106.39
95th-Percentile Queue Length [veh/ln]	5.98	2.59	0.93	3.13	7.11	3.35	7.64
95th-Percentile Queue Length [ft/ln]	149.43	64.68	23.29	78.37	177.85	83.68	190.97

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	37.96	37.96	12.58	11.71	47.26	47.26	20.73	20.73	49.61	49.61	49.61	35.43	35.43	35.43
Movement LOS	D	D	B	B	D	D	C	C	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	20.87				26.52				49.61			35.43		
Approach LOS	C				C				D			D		
d_I, Intersection Delay [s/veh]	27.34													
Intersection LOS	C													
Intersection V/C	0.536													

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	26.58	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.302	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	686	543	171	486
d_b, Bicycle Delay [s]	15.11	18.58	29.26	20.06
l_b,int, Bicycle LOS Score for Intersection	1.904	2.046	1.700	1.951
Bicycle LOS	A	B	A	A

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: 25th Avenue at SR-41

Control Type:	Two-way stop	Delay (sec / veh):	10.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.070

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	311	2	11	314	0	42
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.00	11.00	11.00	11.00	11.00	11.00
Growth Factor	1.0820	1.0820	1.0820	1.0820	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	337	2	12	340	0	45
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	89	1	3	89	0	12
Total Analysis Volume [veh/h]	355	2	13	358	0	47
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.07
d_M, Delay for Movement [s/veh]	0.00	0.00	8.16	0.00	14.83	10.79
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.03	0.03	0.00	0.23
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.85	0.85	0.00	5.66
d_A, Approach Delay [s/veh]	0.00		0.29		10.79	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.79					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Utica Avenue at South Bound 25th Street

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.040

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	33	77	7	4	5	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.00	11.00	11.00	11.00	11.00	11.00
Growth Factor	1.0820	1.0820	1.0820	1.0820	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	83	8	4	5	8
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	22	2	1	1	2
Total Analysis Volume [veh/h]	38	87	8	4	5	8
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.08	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.90	8.76	0.00	0.00	7.33	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.12	0.27	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	3.08	6.79	0.00	0.00	0.24	0.24
d_A, Approach Delay [s/veh]	8.80		0.00		2.82	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	7.58					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Utica Avenue at South Bound I-5 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	21	6	5	0	76	7	1	7	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	11.00	11.00	11.00	2.00	11.00	11.00	11.00	11.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0820	1.0820	1.0820	1.0000	1.0820	1.0820	1.0820	1.0820	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	23	6	5	0	82	8	1	8	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	6	2	1	0	22	2	0	2	0
Total Analysis Volume [veh/h]	0	0	0	24	6	5	0	86	8	1	8	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop			Stop			Free			Free		
Flared Lane				No								
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance				No								
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	9.36	9.86	8.61	0.00	0.00	0.00	7.49	0.00	0.00
Movement LOS				A	A	A		A	A	A	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.13	0.13	0.13	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	3.16	3.16	3.16	0.00	0.00	0.00	0.05	0.05	0.00
d_A, Approach Delay [s/veh]	0.00			9.34			0.00			0.83		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.42											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 7: Utica Avenue at North Bound I-5 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	10.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	1	2	5	0	0	0	58	38	0	0	10	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.00	11.00	11.00	2.00	2.00	2.00	11.00	11.00	2.00	2.00	11.00	11.00
Growth Factor	1.0820	1.0820	1.0820	1.0000	1.0000	1.0000	1.0820	1.0820	1.0000	1.0000	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	2	5	0	0	0	63	41	0	0	11	47
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	1	0	0	0	17	11	0	0	3	12
Total Analysis Volume [veh/h]	1	2	5	0	0	0	66	43	0	0	12	49
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No			
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.23	10.85	8.63	0.00	0.00	0.00	7.53	0.00	0.00	0.00	0.00	0.00
Movement LOS	B	B	A				A	A			A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.03	0.00	0.00	0.00	0.14	0.14	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.73	0.73	0.73	0.00	0.00	0.00	3.48	3.48	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.39			0.00			4.56			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.22											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 8: Utica Avenue at Frontage Road

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	0	2	0	44	54	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.00	11.00	11.00	11.00	11.00	11.00
Growth Factor	1.0820	1.0820	1.0820	1.0820	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	2	0	48	58	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	0	13	15	0
Total Analysis Volume [veh/h]	0	2	0	51	61	0
Pedestrian Volume [ped/h]	0		0		0	

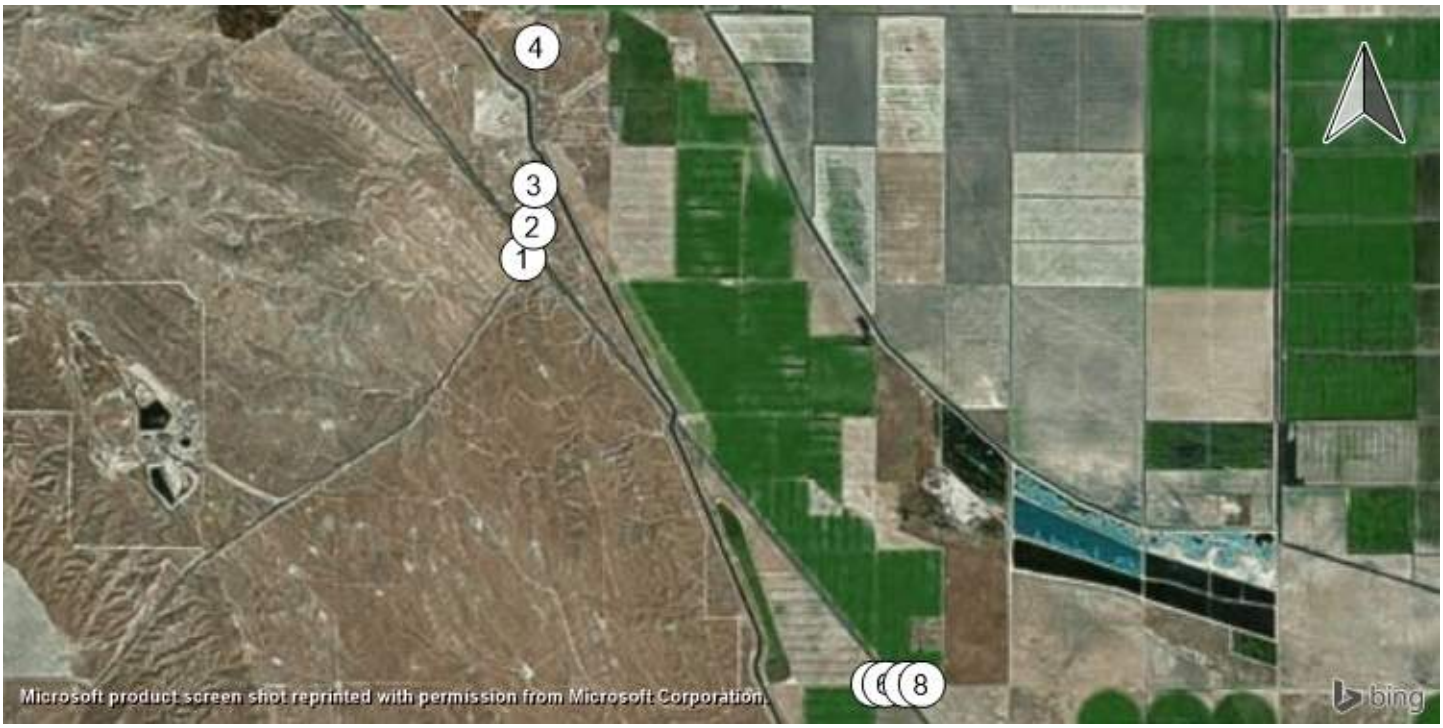
Intersection Settings

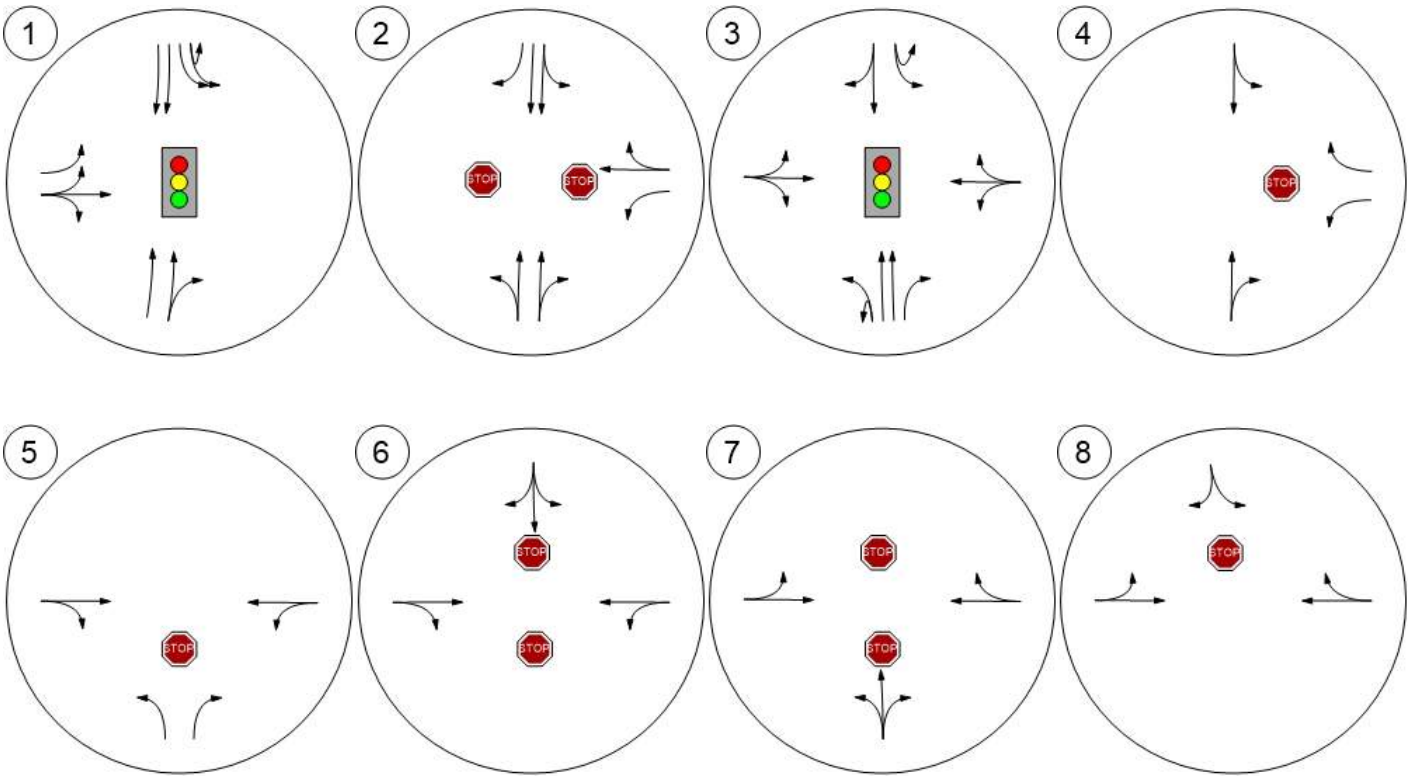
Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

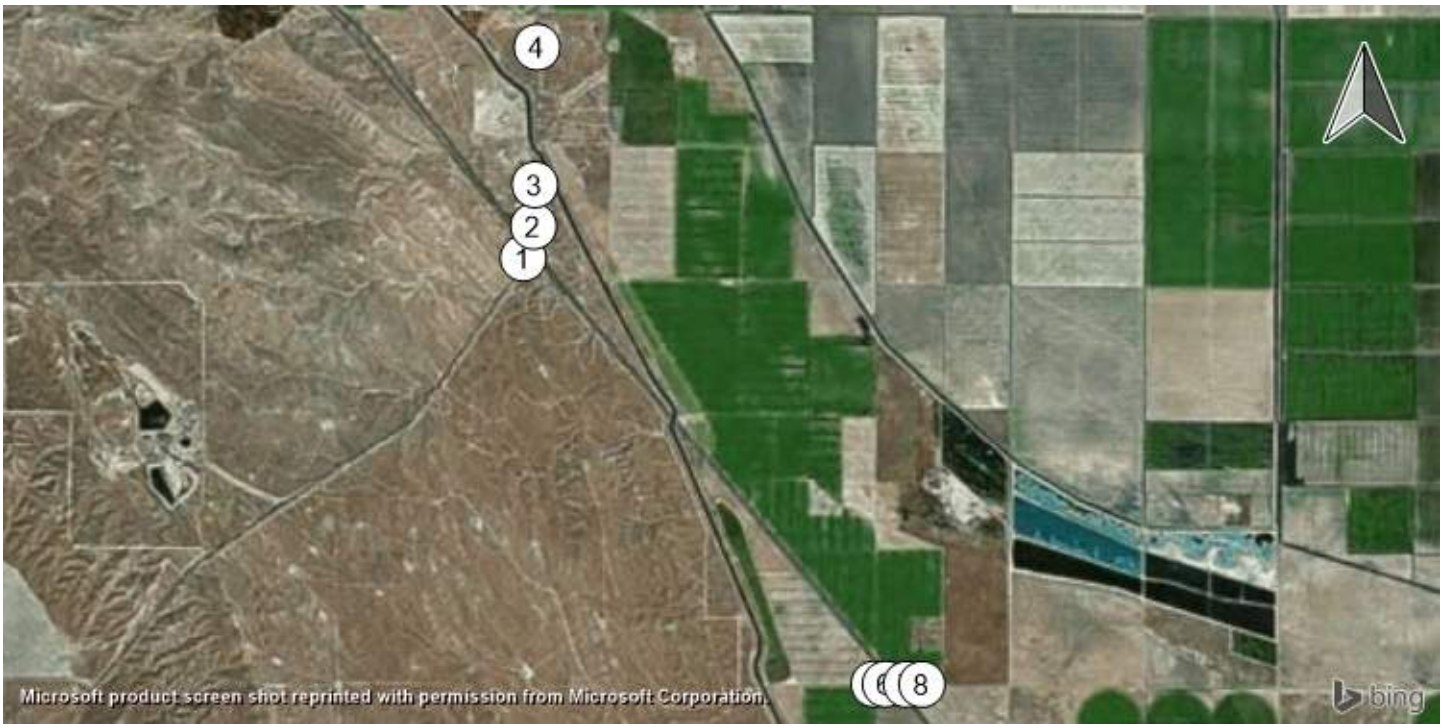
V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.18	8.68	7.42	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.15	0.15	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.68		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.15					
Intersection LOS	A					

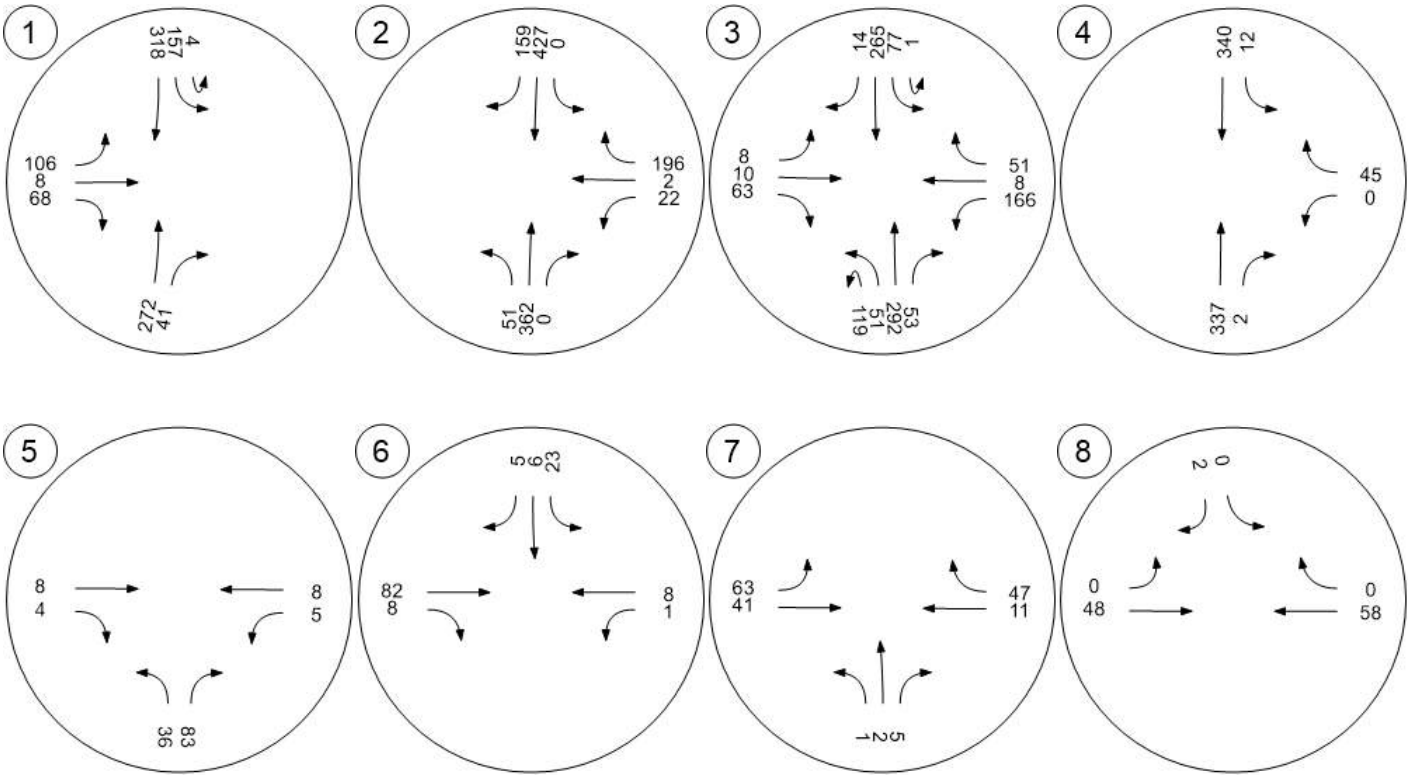
Lane Configuration and Traffic Control





Traffic Volume - Future Total Volume





Intersection Level Of Service Report
Intersection 1: South Bound I-5 at SR-41 Ramps

Control Type:	Signalized	Delay (sec / veh):	15.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.195

Intersection Setup

Name													
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No					
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name													
Base Volume Input [veh/h]	0	198	17	1	86	161	0	72	8	32	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	13.00	13.00	13.00	13.00	13.00	2.00	13.00	13.00	13.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0820	1.0820	1.082	1.082	1.082	1.000	1.0820	1.0820	1.0820	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	214	18	1	93	174	0	78	9	35	0	0	0
Peak Hour Factor	1.0000	0.9500	0.9500	0.950	0.950	0.950	1.000	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	56	5	0	24	46	0	21	2	9	0	0	0
Total Analysis Volume [veh/h]	0	225	19	1	98	183	0	82	9	37	0	0	0
Presence of On-Street Parking	No		No	No			No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0		
v_co, Outbound Pedestrian Volume crossing		0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0		
Bicycle Volume [bicycles/h]		0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	4	0	0	0	0
Auxiliary Signal Groups													
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	21	0	0	12	33	0	0	27	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	6	0	0	0	6	0	0	18	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No			No	No			No				
Maximum Recall		No			No	No			No				
Pedestrian Recall		No			No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	L	C	L	C	
C, Cycle Length [s]	60	60	60	60	60	60	60	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	38	38	6	6	48	4	4	
g / C, Green / Cycle	0.63	0.63	0.10	0.10	0.79	0.07	0.07	
(v / s)_i Volume / Saturation Flow Rate	0.08	0.08	0.07	0.07	0.06	0.04	0.05	
s, saturation flow rate [veh/h]	1534	1493	1461	1461	2921	1461	1374	
c, Capacity [veh/h]	961	936	144	144	2313	110	104	
d1, Uniform Delay [s]	4.56	4.57	26.22	26.20	1.39	26.92	26.96	
k, delay calibration	0.50	0.50	0.11	0.11	0.50	0.11	0.11	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.27	0.29	5.69	5.52	0.07	4.95	5.67	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.13	0.13	0.69	0.68	0.08	0.59	0.61	
d, Delay for Lane Group [s/veh]	4.83	4.86	31.91	31.72	1.46	31.86	32.63	
Lane Group LOS	A	A	C	C	A	C	C	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	0.51	0.52	1.52	1.50	0.08	1.01	0.99	
50th-Percentile Queue Length [ft/ln]	12.82	12.91	38.02	37.50	1.95	25.13	24.84	
95th-Percentile Queue Length [veh/ln]	0.92	0.93	2.74	2.70	0.14	1.81	1.79	
95th-Percentile Queue Length [ft/ln]	23.08	23.23	68.43	67.50	3.52	45.23	44.70	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	4.84	4.86	31.91	31.81	1.46	0.00	32.03	32.63	32.63	0.00	0.00	0.00
Movement LOS		A	A	C	C	A		C	C	C			
d_A, Approach Delay [s/veh]		4.84			17.20				32.24			0.00	
Approach LOS		A			B				C			A	
d_I, Intersection Delay [s/veh]	15.75												
Intersection LOS	B												
Intersection V/C	0.195												

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	21.68
l_p,int, Pedestrian LOS Score for Intersection	2.225	2.529	1.962	1.757
Crosswalk LOS	B	B	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	567	967	767	0
d_b, Bicycle Delay [s]	15.41	8.01	11.41	30.00
l_b,int, Bicycle LOS Score for Intersection	1.761	1.711	1.771	4.132
Bicycle LOS	A	A	A	D

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: North Bound I-5 at SR-41 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	13.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	25	246	0	0	244	97	0	0	0	4	0	102
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	13.00	13.00	13.00	13.00	13.00	13.00	2.00	2.00	2.00	13.00	13.00	13.00
Growth Factor	1.0820	1.0820	1.0820	1.0820	1.0820	1.0820	1.0000	1.0000	1.0000	1.0820	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	27	266	0	0	264	105	0	0	0	4	0	110
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	70	0	0	69	28	0	0	0	1	0	29
Total Analysis Volume [veh/h]	28	280	0	0	278	111	0	0	0	4	0	116
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.14
d_M, Delay for Movement [s/veh]	8.39	0.00	0.00	7.99	0.00	0.00	0.00	0.00	0.00	13.34	16.92	9.91
Movement LOS	A	A	A	A	A	A				B	C	A
95th-Percentile Queue Length [veh/ln]	0.08	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.47	0.47
95th-Percentile Queue Length [ft/ln]	1.97	0.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.69	11.81	11.81
d_A, Approach Delay [s/veh]	0.76			0.00			0.00			10.03		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	1.76											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 3: Bernard Drive at SR-41

Control Type:	Signalized	Delay (sec / veh):	21.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.332

Intersection Setup

Name														
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				No			No		

Volumes

Name														
Base Volume Input [veh/h]	63	27	214	26	0	40	158	8	8	10	36	80	6	29
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
Growth Factor	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.0820	1.0820	1.0820	1.0820	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	68	29	232	28	0	43	171	9	9	11	39	87	6	31
Peak Hour Factor	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	8	61	7	0	11	45	2	2	3	10	23	2	8
Total Analysis Volume [veh/h]	72	31	244	29	0	45	180	9	9	12	41	92	6	33
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups														
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	30	0	0	30	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	18	9	0	0	18	9	0	0	9	0	0	24	0
Vehicle Extension [s]	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	5	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	10	0	0	0	10	0	0	10	0	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	31	31	3	29	3	7
g / C, Green / Cycle	0.09	0.52	0.52	0.04	0.48	0.05	0.11
(v / s)_i Volume / Saturation Flow Rate	0.07	0.08	0.02	0.03	0.12	0.05	0.09
s, saturation flow rate [veh/h]	1461	2921	1304	1461	1522	1365	1421
c, Capacity [veh/h]	126	1520	679	66	729	74	162
d1, Uniform Delay [s]	26.94	7.53	7.06	28.20	9.29	28.13	25.96
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	11.93	0.23	0.12	11.41	0.86	21.64	9.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.16	0.04	0.68	0.26	0.84	0.81
d, Delay for Lane Group [s/veh]	38.87	7.76	7.18	39.61	10.15	49.77	35.25
Lane Group LOS	D	A	A	D	B	D	D
Critical Lane Group	Yes	No	No	No	Yes	Yes	Yes
50th-Percentile Queue Length [veh/ln]	1.79	0.73	0.17	0.82	1.42	1.28	2.13
50th-Percentile Queue Length [ft/ln]	44.67	18.13	4.33	20.39	35.53	31.98	53.34
95th-Percentile Queue Length [veh/ln]	3.22	1.31	0.31	1.47	2.56	2.30	3.84
95th-Percentile Queue Length [ft/ln]	80.41	32.64	7.80	36.71	63.95	57.57	96.01

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.87	38.87	7.76	7.18	39.61	39.61	10.15	10.15	49.77	49.77	49.77	35.25	35.25	35.25
Movement LOS	D	D	A	A	D	D	B	B	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	16.24				15.81				49.77			35.25		
Approach LOS	B				B				D			D		
d_I, Intersection Delay [s/veh]	21.80													
Intersection LOS	C													
Intersection V/C	0.332													

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	21.68	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	2.238	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	167	167	167	667
d_b, Bicycle Delay [s]	25.21	25.21	25.21	13.33
I_b,int, Bicycle LOS Score for Intersection	1.810	1.871	1.662	1.776
Bicycle LOS	A	A	A	A

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: 25th Avenue at SR-41

Control Type:	Two-way stop	Delay (sec / veh):	12.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	242	1	13	188	2	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	13.00	13.00	13.00	13.00	13.00	13.00
Growth Factor	1.0820	1.0820	1.0820	1.0820	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	262	1	14	203	2	14
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	69	0	4	53	1	4
Total Analysis Volume [veh/h]	276	1	15	214	2	15
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	7.98	0.00	12.37	9.99
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.04	0.04	0.01	0.06
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.93	0.93	0.31	1.56
d_A, Approach Delay [s/veh]	0.00		0.52		10.27	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.56					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Utica Avenue at South Bound 25th Street

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	6	14	5	2	4	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	13.00	13.00	13.00	13.00	13.00	13.00
Growth Factor	1.0820	1.0820	1.0820	1.0820	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	15	5	2	4	1
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	4	1	1	1	0
Total Analysis Volume [veh/h]	6	16	5	2	4	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.02	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.78	8.52	0.00	0.00	7.34	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	1.64	1.64	0.00	0.00	0.19	0.19
d_A, Approach Delay [s/veh]	8.59		0.00		5.87	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	6.42					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Utica Avenue at South Bound I-5 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	21	3	2	0	19	1	0	3	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	13.00	13.00	13.00	2.00	13.00	13.00	13.00	13.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0820	1.0820	1.0820	1.0000	1.0820	1.0820	1.0820	1.0820	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	23	3	2	0	21	1	0	3	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	6	1	1	0	6	0	0	1	0
Total Analysis Volume [veh/h]	0	0	0	24	3	2	0	22	1	0	3	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop			Stop			Free			Free		
Flared Lane				No								
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance				No								
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	8.88	9.37	8.55	0.00	0.00	0.00	7.36	0.00	0.00
Movement LOS				A	A	A		A	A	A	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.09	0.09	0.09	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	2.36	2.36	2.36	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			8.91			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	4.70											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 7: Utica Avenue at North Bound I-5 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	9.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	1	4	2	0	0	0	10	31	0	0	2	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	13.00	13.00	13.00	2.00	2.00	2.00	13.00	13.00	2.00	2.00	13.00	13.00
Growth Factor	1.0820	1.0820	1.0820	1.0000	1.0000	1.0000	1.0820	1.0820	1.0000	1.0000	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	4	2	0	0	0	11	34	0	0	2	18
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	1	0	0	0	3	9	0	0	1	5
Total Analysis Volume [veh/h]	1	4	2	0	0	0	12	36	0	0	2	19
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No			
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.10	9.64	8.61	0.00	0.00	0.00	7.38	0.00	0.00	0.00	0.00	0.00
Movement LOS	A	A	A				A	A			A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	0.00	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.62	0.62	0.62	0.00	0.00	0.00	0.59	0.59	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.27			0.00			1.84			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.02											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 8: Utica Avenue at Frontage Road

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	2	0	2	31	18	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	13.00	13.00	13.00	13.00	13.00	13.00
Growth Factor	1.0820	1.0820	1.0820	1.0820	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	0	2	34	19	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	1	9	5	0
Total Analysis Volume [veh/h]	2	0	2	36	20	0
Pedestrian Volume [ped/h]	0		0		0	

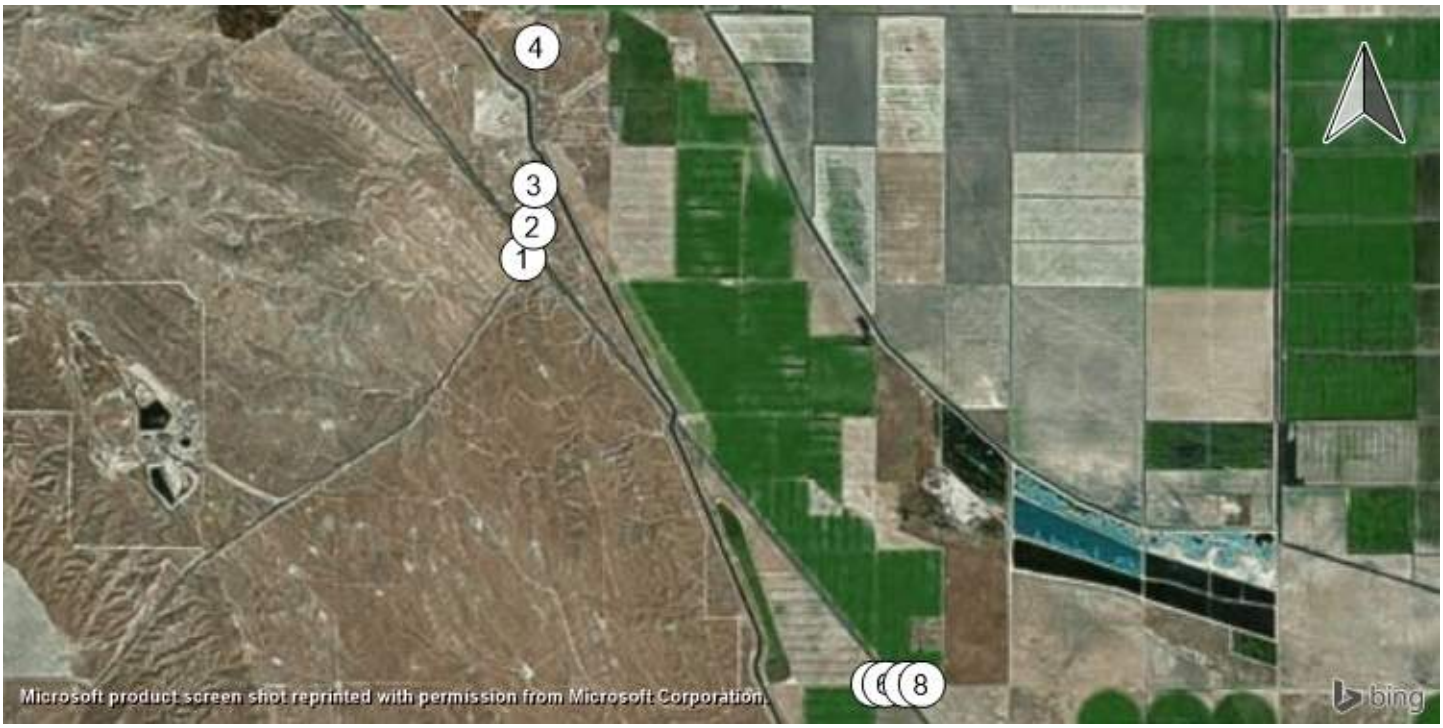
Intersection Settings

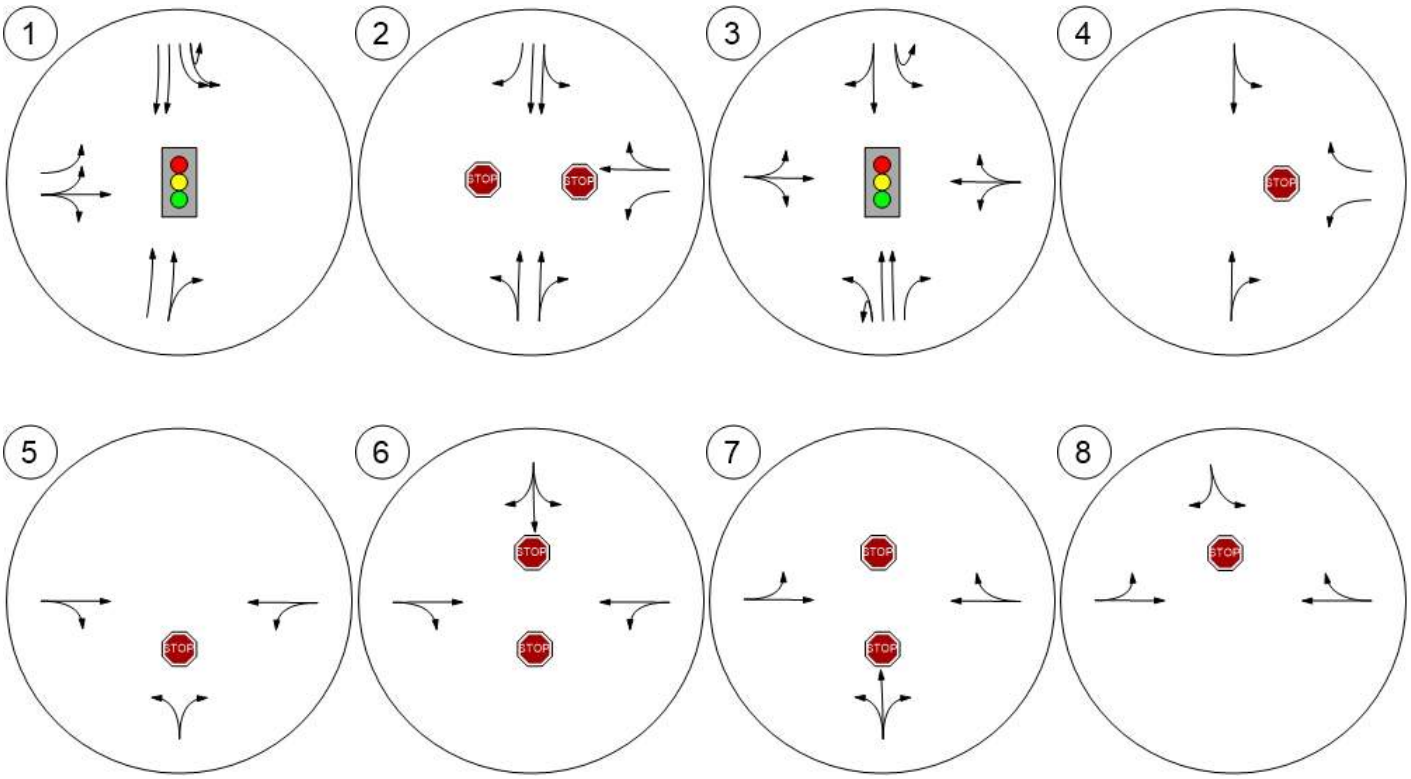
Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

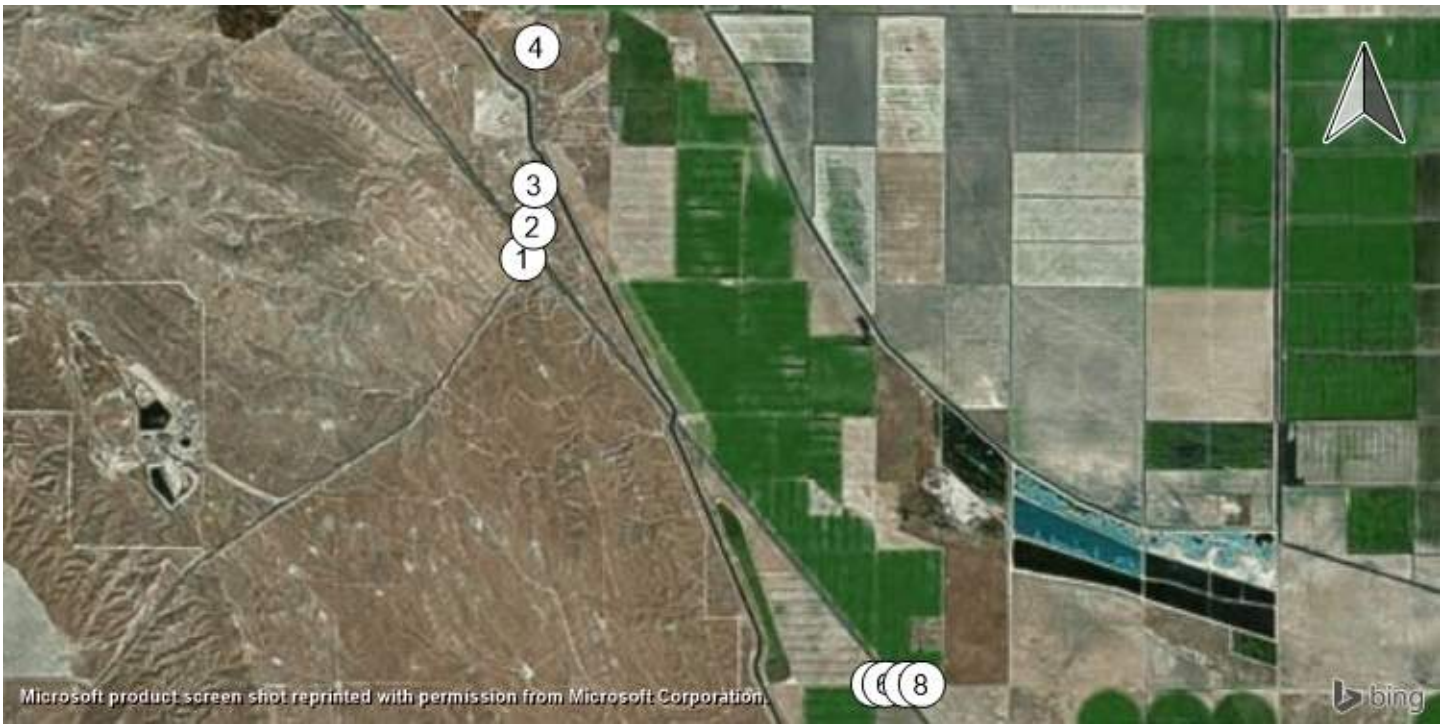
V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.93	8.51	7.36	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.16	0.16	0.10	0.10	0.00	0.00
d_A, Approach Delay [s/veh]	8.93		0.39		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.54					
Intersection LOS	A					

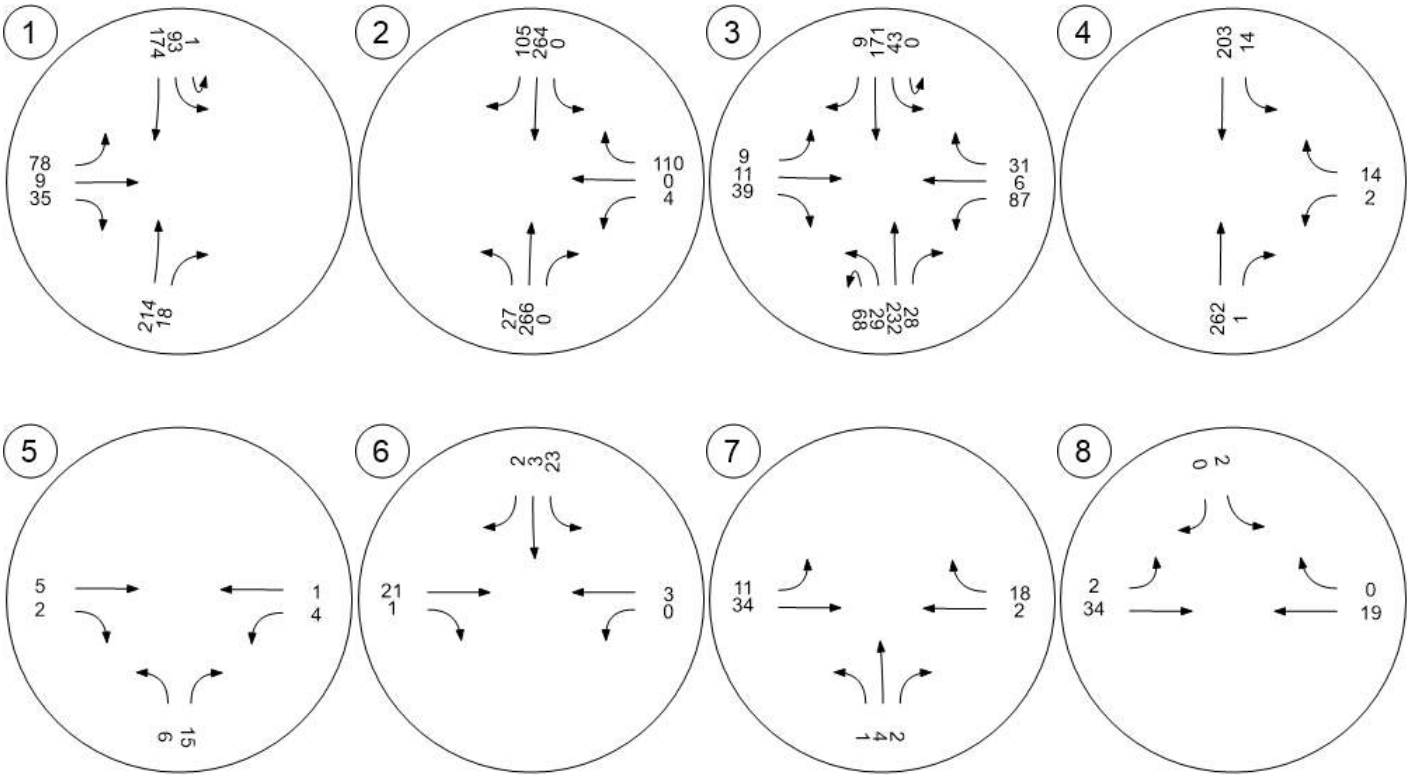
Lane Configuration and Traffic Control





Traffic Volume - Future Total Volume





Intersection Level Of Service Report
Intersection 5: Utica Avenue at South Bound 25th Street

Control Type:	Roundabout	Delay (sec / veh):	7.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	4	12	14	0	6	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	23.00	23.00	23.00	23.00	23.00	23.00
Growth Factor	1.0820	1.0820	1.0820	1.0820	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	384	0	0	396	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	397	15	0	402	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	104	4	0	106	1
Total Analysis Volume [veh/h]	4	418	16	0	423	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	20		520		5	
Exiting Flow Rate [veh/h]	520		7		534	
Demand Flow Rate [veh/h]	4	397	15	0	402	2
Adjusted Demand Flow Rate [veh/h]	4	418	16	0	423	2

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	0.81	0.81	0.81
Entry Flow Rate [veh/h]	520	20	523
Capacity of Entry and Bypass Lanes [veh/h]	1353	812	1374
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1100	660	1117
X, volume / capacity	0.38	0.02	0.38

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	1.83	0.07	1.81
95th-Percentile Queue Length [ft]	45.72	1.86	45.16
Approach Delay [s/veh]	7.22	5.71	7.10
Approach LOS	A	A	A
Intersection Delay [s/veh]	7.13		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 6: Utica Avenue at South Bound I-5 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	16.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	15	3	4	0	12	15	0	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	23.00	23.00	23.00	2.00	23.00	23.00	23.00	23.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0820	1.0820	1.0820	1.0000	1.0820	1.0820	1.0820	1.0820	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	245	0	255	129	0	151	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	16	3	249	0	268	145	0	155	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	4	1	66	0	71	38	0	41	0
Total Analysis Volume [veh/h]	0	0	0	17	3	262	0	282	153	0	163	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop			Stop			Free			Free		
Flared Lane				No								
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance				No								
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.04	0.01	0.32	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	15.90	16.87	11.95	0.00	0.00	0.00	8.52	0.00	0.00
Movement LOS				C	C	B		A	A	A	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	1.66	1.66	1.66	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	41.56	41.56	41.56	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			12.24			0.00			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	3.92											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 7: Utica Avenue at North Bound I-5 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	26.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.029

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	1	8	4	0	0	0	9	22	0	0	3	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	23.00	23.00	23.00	2.00	2.00	2.00	23.00	23.00	2.00	2.00	23.00	23.00
Growth Factor	1.0820	1.0820	1.0820	1.0000	1.0000	1.0000	1.0820	1.0820	1.0000	1.0000	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	133	0	0	0	0	0	237	18	0	0	18	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	134	9	4	0	0	0	247	42	0	0	21	25
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	2	1	0	0	0	65	11	0	0	6	7
Total Analysis Volume [veh/h]	141	9	4	0	0	0	260	44	0	0	22	26
Pedestrian Volume [ped/h]	0			0			0			0		

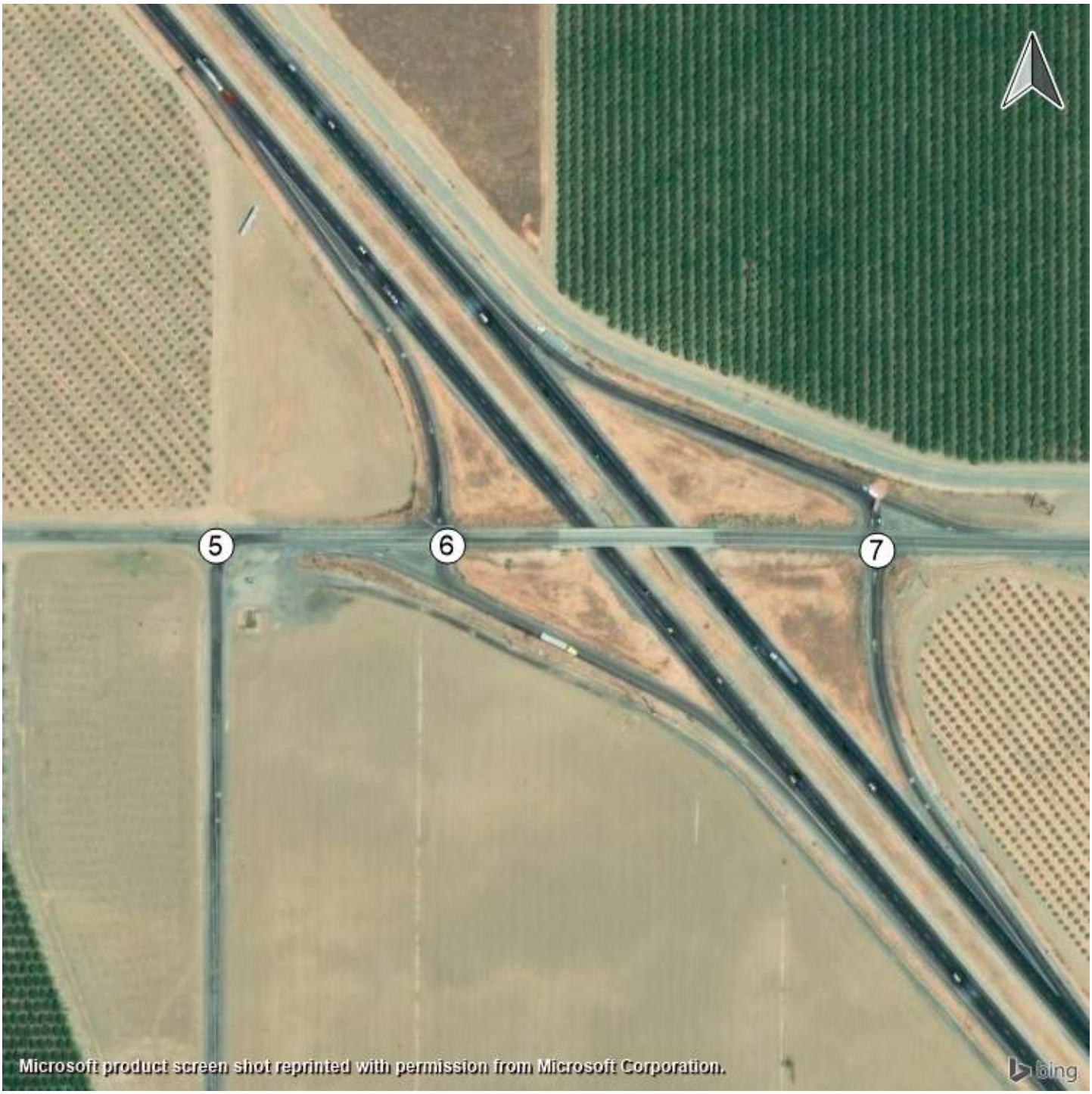
Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No			
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

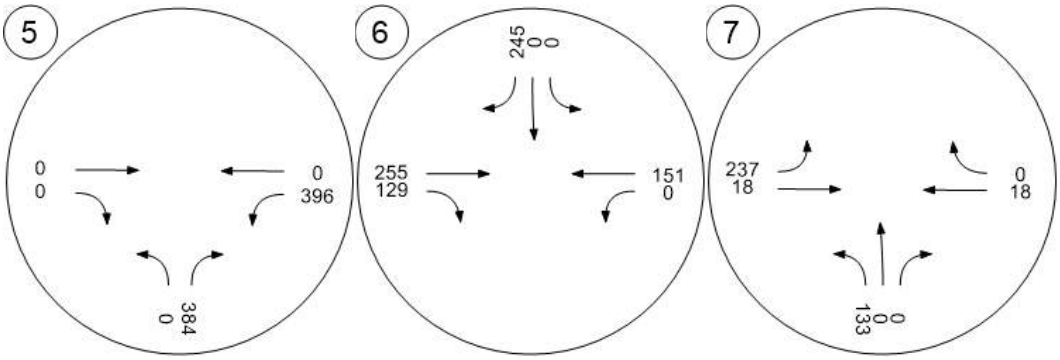
V/C, Movement V/C Ratio	0.45	0.03	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	26.66	26.74	18.86	0.00	0.00	0.00	8.06	0.00	0.00	0.00	0.00	0.00
Movement LOS	D	D	C				A	A			A	A
95th-Percentile Queue Length [veh/ln]	2.51	2.51	2.51	0.00	0.00	0.00	0.66	0.66	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	62.63	62.63	62.63	0.00	0.00	0.00	16.53	16.53	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	26.46			0.00			6.90			0.00		
Approach LOS	D			A			A			A		
d_I, Intersection Delay [s/veh]	12.20											
Intersection LOS	D											

Study Intersections



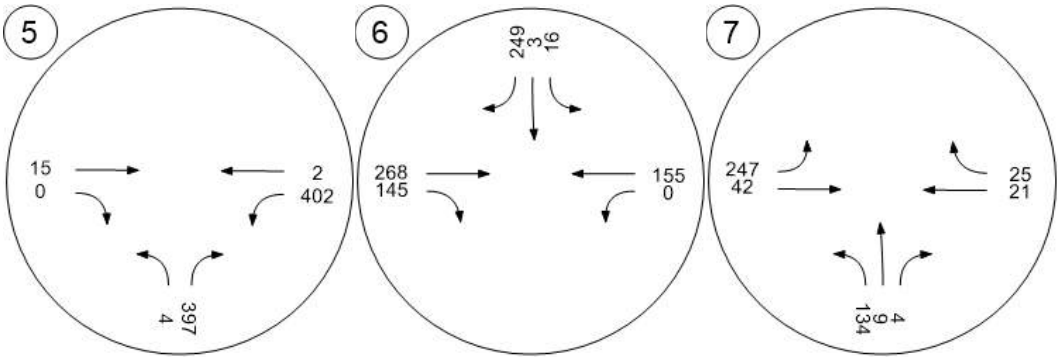
Traffic Volume - Net New Site Trips





Traffic Volume - Future Total Volume





Intersection Level Of Service Report
Intersection 1: South Bound I-5 at SR-41 Ramps

Control Type:	Signalized	Delay (sec / veh):	18.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.194

Intersection Setup

Name													
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No					
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name													
Base Volume Input [veh/h]	0	102	5	2	67	146	0	69	2	18	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	23.00	23.00	23.00	23.00	23.00	2.00	23.00	23.00	23.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0820	1.0820	1.082	1.082	1.082	1.000	1.0820	1.0820	1.0820	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	18	0	54	18	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	110	23	2	126	176	0	75	2	19	0	0	0
Peak Hour Factor	1.0000	0.9500	0.9500	0.950	0.950	0.950	1.000	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	29	6	1	33	46	0	20	1	5	0	0	0
Total Analysis Volume [veh/h]	0	116	24	2	133	185	0	79	2	20	0	0	0
Presence of On-Street Parking	No		No	No			No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0				0			0		
v_co, Outbound Pedestrian Volume crossing	0			0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0				0			0		
Bicycle Volume [bicycles/h]	0			0				0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	4	0	0	0	0
Auxiliary Signal Groups													
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	19	0	0	14	33	0	0	27	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	6	0	0	0	6	0	0	18	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No			No	No			No				
Maximum Recall		No			No	No			No				
Pedestrian Recall		No			No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	L	C	L	C	
C, Cycle Length [s]	60	60	60	60	60	60	60	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	36	36	8	8	48	4	4	
g / C, Green / Cycle	0.60	0.60	0.13	0.13	0.80	0.07	0.07	
(v / s)_i Volume / Saturation Flow Rate	0.05	0.05	0.10	0.10	0.07	0.04	0.04	
s, saturation flow rate [veh/h]	1399	1319	1333	1333	2664	1333	1274	
c, Capacity [veh/h]	835	787	179	179	2124	93	89	
d1, Uniform Delay [s]	5.15	5.16	25.11	25.06	1.33	27.06	27.09	
k, delay calibration	0.50	0.50	0.11	0.11	0.50	0.11	0.11	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.20	0.22	6.39	6.05	0.08	4.94	5.48	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.08	0.09	0.76	0.75	0.09	0.55	0.56	
d, Delay for Lane Group [s/veh]	5.35	5.39	31.50	31.11	1.41	32.00	32.57	
Lane Group LOS	A	A	C	C	A	C	C	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	0.33	0.33	2.06	2.01	0.07	0.80	0.79	
50th-Percentile Queue Length [ft/ln]	8.18	8.28	51.43	50.29	1.81	19.95	19.87	
95th-Percentile Queue Length [veh/ln]	0.59	0.60	3.70	3.62	0.13	1.44	1.43	
95th-Percentile Queue Length [ft/ln]	14.72	14.90	92.57	90.52	3.25	35.91	35.76	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	5.36	5.39	31.50	31.30	1.41	0.00	32.21	32.57	32.57	0.00	0.00	0.00
Movement LOS		A	A	C	C	A		C	C	C			
d_A, Approach Delay [s/veh]		5.37			19.10				32.28			0.00	
Approach LOS		A			B				C			A	
d_I, Intersection Delay [s/veh]	18.25												
Intersection LOS	B												
Intersection V/C	0.194												

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	21.68
l_p,int, Pedestrian LOS Score for Intersection	2.196	2.517	1.954	1.773
Crosswalk LOS	B	B	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	500	967	767	0
d_b, Bicycle Delay [s]	16.88	8.01	11.41	30.00
l_b,int, Bicycle LOS Score for Intersection	1.675	1.714	1.726	4.132
Bicycle LOS	A	A	A	D

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: North Bound I-5 at SR-41 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	15.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	24	149	0	0	186	63	0	0	0	27	2	85
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	23.00	23.00	23.00	23.00	23.00	23.00	2.00	2.00	2.00	23.00	23.00	23.00
Growth Factor	1.0820	1.0820	1.0820	1.0820	1.0820	1.0820	1.0000	1.0000	1.0000	1.0820	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	54	0	0	0	0	18	0	52
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	161	0	0	255	68	0	0	0	47	2	144
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	42	0	0	67	18	0	0	0	12	1	38
Total Analysis Volume [veh/h]	27	169	0	0	268	72	0	0	0	49	2	152
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median	0	0	0	0

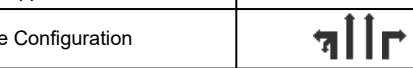
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.01	0.17
d_M, Delay for Movement [s/veh]	8.43	0.00	0.00	7.84	0.00	0.00	0.00	0.00	0.00	12.80	15.31	9.90
Movement LOS	A	A	A	A	A	A				B	C	A
95th-Percentile Queue Length [veh/ln]	0.08	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.63	0.63
95th-Percentile Queue Length [ft/ln]	1.93	0.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.92	15.83	15.83
d_A, Approach Delay [s/veh]	1.16			0.00			0.00			10.65		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	3.23											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: Bernard Drive at SR-41

Control Type:	Signalized	Delay (sec / veh):	25.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.332

Intersection Setup

Name														
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				No			No		

Volumes

Name														
Base Volume Input [veh/h]	39	39	115	21	0	43	132	8	5	10	38	49	5	18
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00
Growth Factor	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.0820	1.0820	1.0820	1.0820	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	52	0	0	0	54	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	42	42	176	23	0	47	197	9	5	11	41	53	5	19
Peak Hour Factor	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	11	46	6	0	12	52	2	1	3	11	14	1	5
Total Analysis Volume [veh/h]	44	44	185	24	0	49	207	9	5	12	43	56	5	20
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups														
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	30	0	0	30	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	19	19	0	0	15	15	0	0	15	0	0	21	0
Vehicle Extension [s]	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	5	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	10	0	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	42	42	3	40	4	5
g / C, Green / Cycle	0.08	0.60	0.60	0.04	0.57	0.05	0.07
(v / s)_i Volume / Saturation Flow Rate	0.07	0.07	0.02	0.04	0.16	0.05	0.06
s, saturation flow rate [veh/h]	1333	2664	1189	1333	1389	1238	1298
c, Capacity [veh/h]	105	1595	712	60	785	67	96
d1, Uniform Delay [s]	31.82	6.06	5.75	33.16	7.84	32.92	32.01
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	15.99	0.15	0.09	23.25	0.87	30.95	17.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.12	0.03	0.82	0.28	0.90	0.84
d, Delay for Lane Group [s/veh]	47.81	6.20	5.84	56.40	8.71	63.87	49.48
Lane Group LOS	D	A	A	E	A	E	D
Critical Lane Group	Yes	No	No	No	Yes	Yes	Yes
50th-Percentile Queue Length [veh/ln]	1.88	0.52	0.14	1.18	1.61	1.55	1.77
50th-Percentile Queue Length [ft/ln]	47.06	12.98	3.43	29.60	40.24	38.80	44.33
95th-Percentile Queue Length [veh/ln]	3.39	0.93	0.25	2.13	2.90	2.79	3.19
95th-Percentile Queue Length [ft/ln]	84.70	23.36	6.18	53.27	72.43	69.84	79.80

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	47.81	47.81	6.20	5.84	56.40	56.40	8.71	8.71	63.87	63.87	63.87	49.48	49.48	49.48
Movement LOS	D	D	A	A	E	E	A	A	E	E	E	D	D	D
d_A, Approach Delay [s/veh]	18.50				17.53				63.87			49.48		
Approach LOS	B				B				E			D		
d_I, Intersection Delay [s/veh]	25.58													
Intersection LOS	C													
Intersection V/C	0.332													

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	26.58	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.236	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	429	314	314	486
d_b, Bicycle Delay [s]	21.61	24.86	24.86	20.06
l_b,int, Bicycle LOS Score for Intersection	1.768	1.916	1.659	1.693
Bicycle LOS	A	A	A	A

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: 25th Avenue at SR-41

Control Type:	Two-way stop	Delay (sec / veh):	11.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.024

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	113	4	8	181	11	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0820	1.0820	1.0820	1.0820	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	52	0	0	54	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	174	4	9	250	12	22
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	46	1	2	66	3	6
Total Analysis Volume [veh/h]	183	4	9	263	13	23
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.02	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	7.61	0.00	11.70	9.32
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.02	0.07	0.08
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.49	0.49	1.81	2.07
d_A, Approach Delay [s/veh]	0.00		0.25		10.17	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.88					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 8: Utica Avenue at Frontage Road

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	23	24	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	23.00	23.00	23.00	23.00	23.00	23.00
Growth Factor	1.0820	1.0820	1.0820	1.0820	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	18	18	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	43	44	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	11	12	0
Total Analysis Volume [veh/h]	0	0	0	45	46	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

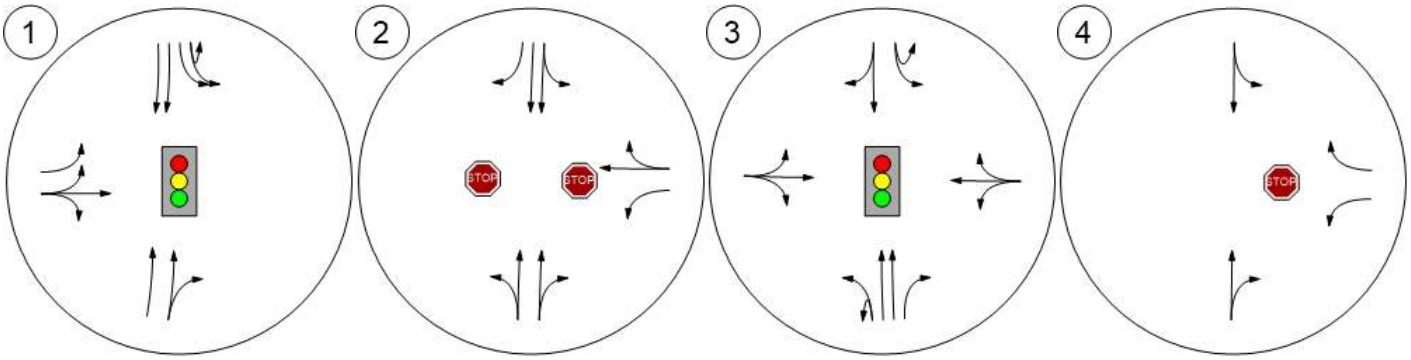
Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

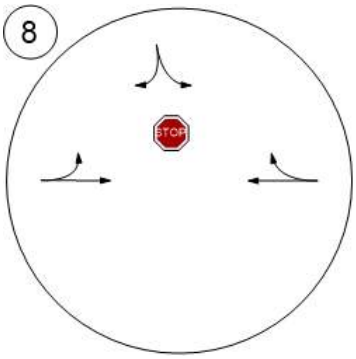
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.18	8.72	7.51	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.95		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Lane Configuration and Traffic Control

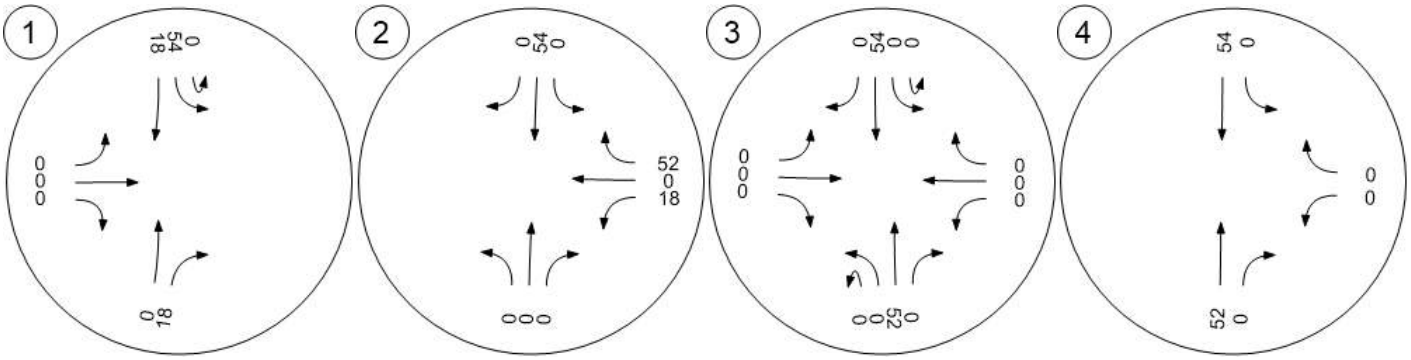


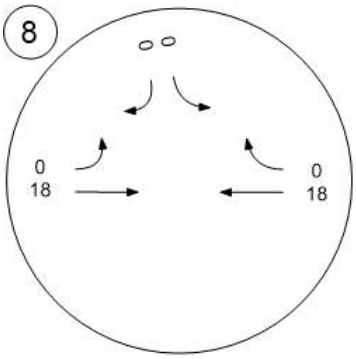




Traffic Volume - Net New Site Trips

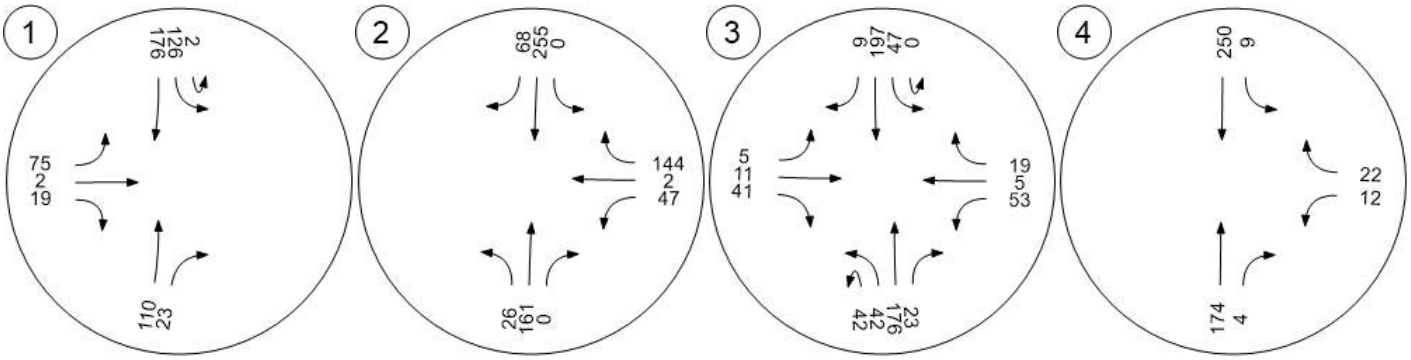


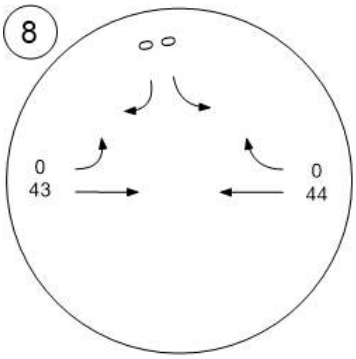




Traffic Volume - Future Total Volume







Intersection Level Of Service Report
Intersection 5: Utica Avenue at South Bound 25th Street

Control Type:	Roundabout	Delay (sec / veh):	7.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	33	77	7	4	5	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.00	11.00	11.00	11.00	11.00	11.00
Growth Factor	1.0820	1.0820	1.0820	1.0820	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	470	0	0	506	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	553	8	4	511	8
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	146	2	1	134	2
Total Analysis Volume [veh/h]	38	582	8	4	538	8
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	9		597		42	
Exiting Flow Rate [veh/h]	602		51		655	
Demand Flow Rate [veh/h]	36	553	8	4	511	8
Adjusted Demand Flow Rate [veh/h]	38	582	8	4	538	8

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1380.00	1380.00
B (coefficient)	0.00091	0.00091	0.00102	0.00102
HV Adjustment Factor	0.90	0.90	0.90	0.90
Entry Flow Rate [veh/h]	43	647	14	607
Capacity of Entry and Bypass Lanes [veh/h]	1409	1409	751	1322
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1269	1269	677	1191
X, volume / capacity	0.03	0.46	0.02	0.46

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.09	2.47	0.05	2.46
95th-Percentile Queue Length [ft]	2.31	61.76	1.35	61.62
Approach Delay [s/veh]	7.24		5.51	7.85
Approach LOS	A		A	A
Intersection Delay [s/veh]	7.50			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 6: Utica Avenue at South Bound I-5 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	21.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.019

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	21	6	5	0	76	7	1	7	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	11.00	11.00	11.00	2.00	11.00	11.00	11.00	11.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0820	1.0820	1.0820	1.0000	1.0820	1.0820	1.0820	1.0820	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	318	0	321	149	0	188	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	23	6	323	0	403	157	1	196	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	6	2	85	0	106	41	0	52	0
Total Analysis Volume [veh/h]	0	0	0	24	6	340	0	424	165	1	206	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane		No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.07	0.02	0.42	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	20.81	21.70	14.48	0.00	0.00	0.00	8.82	0.00	0.00
Movement LOS				C	C	B		A	A	A	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	2.93	2.93	2.93	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	73.19	73.19	73.19	0.00	0.00	0.00	0.08	0.08	0.00
d_A, Approach Delay [s/veh]	0.00			15.00			0.00			0.04		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	4.77											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 7: Utica Avenue at North Bound I-5 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	101.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.922

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	1	2	5	0	0	0	58	38	0	0	10	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.00	11.00	11.00	2.00	2.00	2.00	11.00	11.00	2.00	2.00	11.00	11.00
Growth Factor	1.0820	1.0820	1.0820	1.0000	1.0000	1.0000	1.0820	1.0820	1.0000	1.0000	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	161	0	0	0	0	0	296	25	0	0	27	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	162	2	5	0	0	0	359	66	0	0	38	47
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	1	1	0	0	0	94	17	0	0	10	12
Total Analysis Volume [veh/h]	171	2	5	0	0	0	378	69	0	0	40	49
Pedestrian Volume [ped/h]	0			0			0			0		

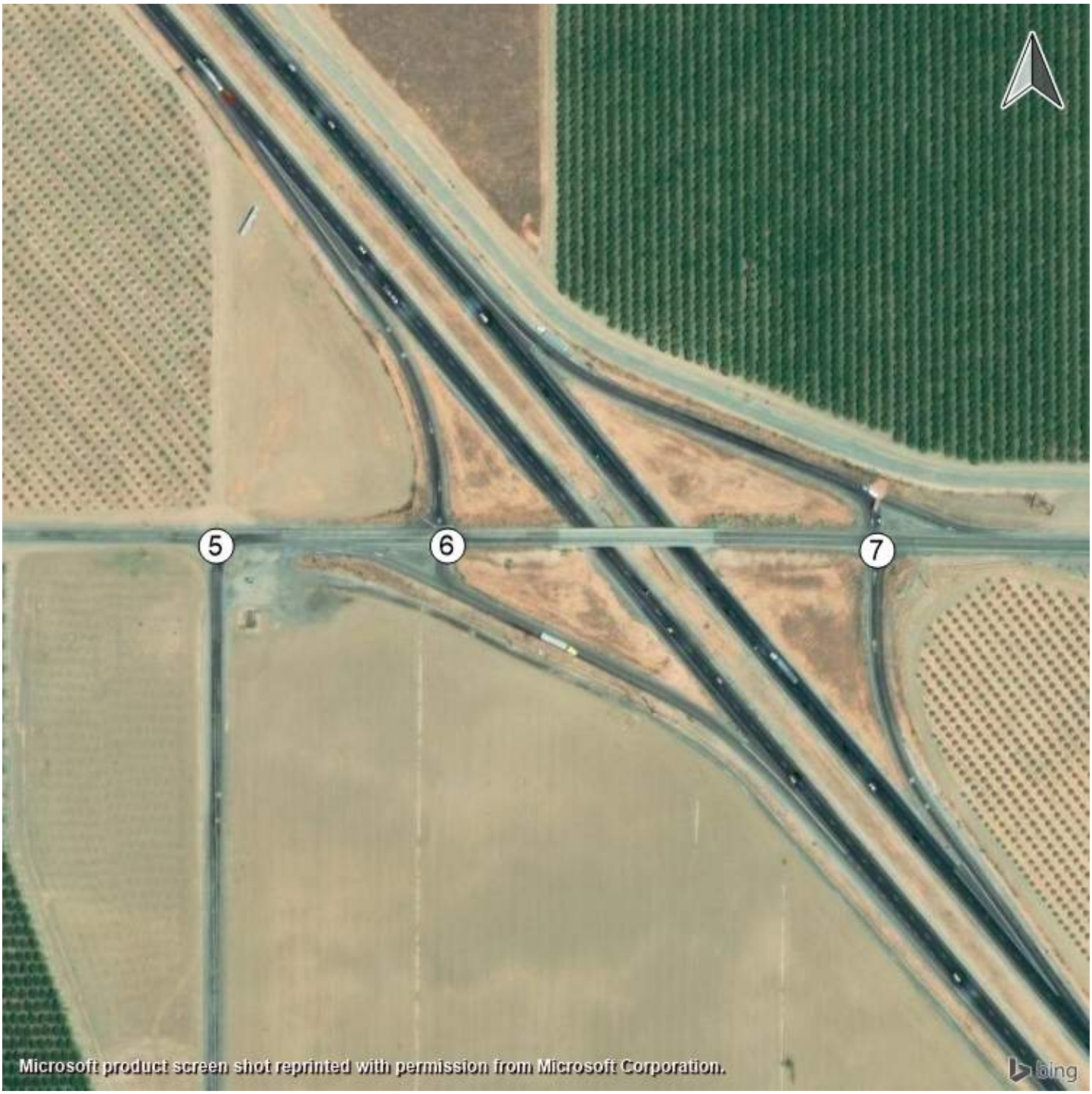
Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No			
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

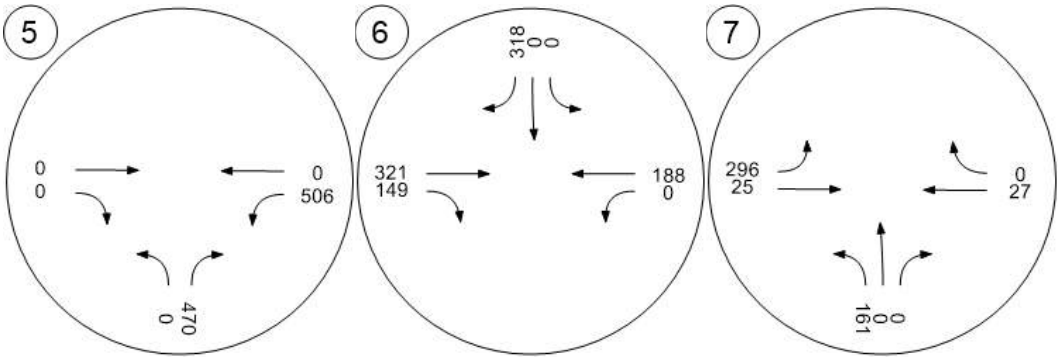
V/C, Movement V/C Ratio	0.92	0.01	0.01	0.00	0.00	0.00	0.26	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	100.96	100.25	85.26	0.00	0.00	0.00	8.35	0.00	0.00	0.00	0.00	0.00
Movement LOS	F	F	F				A	A			A	A
95th-Percentile Queue Length [veh/ln]	7.46	7.46	7.46	0.00	0.00	0.00	1.05	1.05	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	186.62	186.62	186.62	0.00	0.00	0.00	26.20	26.20	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	100.51			0.00			7.06			0.00		
Approach LOS	F			A			A			A		
d_I, Intersection Delay [s/veh]	29.48											
Intersection LOS	F											

Study Intersections



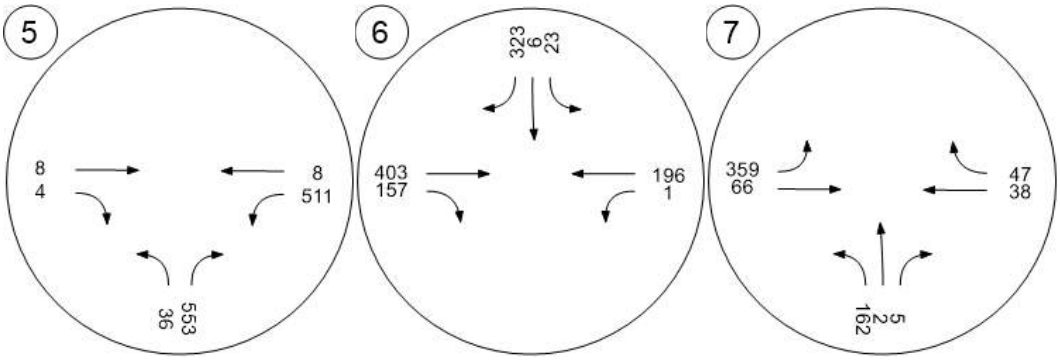
Traffic Volume - Net New Site Trips





Traffic Volume - Future Total Volume





Intersection Level Of Service Report
Intersection 1: South Bound I-5 at SR-41 Ramps

Control Type:	Signalized	Delay (sec / veh):	17.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.361

Intersection Setup

Name													
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No					
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name													
Base Volume Input [veh/h]	0	251	38	4	145	294	0	98	7	63	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	11.00	11.00	11.00	11.00	11.00	2.00	11.00	11.00	11.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0820	1.0820	1.082	1.082	1.082	1.000	1.0820	1.0820	1.0820	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	27	0	80	25	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	272	68	4	237	343	0	106	8	68	0	0	0
Peak Hour Factor	1.0000	0.9500	0.9500	0.950	0.950	0.950	1.000	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	72	18	1	62	90	0	28	2	18	0	0	0
Total Analysis Volume [veh/h]	0	286	72	4	249	361	0	112	8	72	0	0	0
Presence of On-Street Parking	No		No	No			No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0				0			0		
v_co, Outbound Pedestrian Volume crossing	0			0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0				0			0		
Bicycle Volume [bicycles/h]	0			0				0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	4	0	0	0	0
Auxiliary Signal Groups													
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	15	0	0	16	31	0	0	29	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	6	0	0	0	6	0	0	18	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No			No	No			No				
Maximum Recall		No			No	No			No				
Pedestrian Recall		No			No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	L	C	L	C	
C, Cycle Length [s]	60	60	60	60	60	60	60	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	30	30	12	12	46	6	6	
g / C, Green / Cycle	0.50	0.50	0.20	0.20	0.76	0.10	0.10	
(v / s)_i Volume / Saturation Flow Rate	0.11	0.12	0.17	0.17	0.12	0.07	0.07	
s, saturation flow rate [veh/h]	1561	1458	1487	1487	2973	1487	1366	
c, Capacity [veh/h]	779	727	295	295	2270	153	141	
d1, Uniform Delay [s]	8.51	8.59	23.25	23.17	1.91	25.84	25.90	
k, delay calibration	0.50	0.50	0.11	0.11	0.50	0.11	0.11	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.69	0.81	7.21	6.59	0.15	4.44	5.23	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.23	0.25	0.86	0.85	0.16	0.64	0.66	
d, Delay for Lane Group [s/veh]	9.20	9.40	30.46	29.76	2.06	30.29	31.13	
Lane Group LOS	A	A	C	C	A	C	C	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	1.25	1.28	3.79	3.67	0.26	1.47	1.41	
50th-Percentile Queue Length [ft/ln]	31.31	31.91	94.63	91.84	6.55	36.64	35.36	
95th-Percentile Queue Length [veh/ln]	2.25	2.30	6.81	6.61	0.47	2.64	2.55	
95th-Percentile Queue Length [ft/ln]	56.35	57.44	170.34	165.31	11.78	65.96	63.65	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	9.28	9.40	30.46	30.10	2.06	0.00	30.40	31.13	31.13	0.00	0.00	0.00
Movement LOS		A	A	C	C	A		C	C	C			
d_A, Approach Delay [s/veh]	9.30			18.38				30.70			0.00		
Approach LOS	A			B				C			A		
d_I, Intersection Delay [s/veh]	17.75												
Intersection LOS	B												
Intersection V/C	0.361												

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	21.68
l_p,int, Pedestrian LOS Score for Intersection	2.305	2.598	1.983	1.856
Crosswalk LOS	B	B	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	367	900	833	0
d_b, Bicycle Delay [s]	20.01	9.08	10.21	30.00
l_b,int, Bicycle LOS Score for Intersection	1.855	1.861	1.876	4.132
Bicycle LOS	A	A	A	D

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: North Bound I-5 at SR-41 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	30.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	47	335	0	0	395	147	0	0	0	20	2	181
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.00	11.00	11.00	11.00	11.00	11.00	2.00	2.00	2.00	11.00	11.00	11.00
Growth Factor	1.0820	1.0820	1.0820	1.0820	1.0820	1.0820	1.0000	1.0000	1.0000	1.0820	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	80	0	0	0	0	25	0	74
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	51	362	0	0	507	159	0	0	0	47	2	270
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	95	0	0	133	42	0	0	0	12	1	71
Total Analysis Volume [veh/h]	54	381	0	0	534	167	0	0	0	49	2	284
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median	0	0	0	0

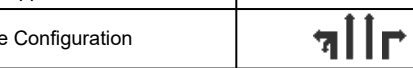
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.19	0.01	0.36
d_M, Delay for Movement [s/veh]	9.61	0.00	0.00	8.24	0.00	0.00	0.00	0.00	0.00	21.97	30.07	12.28
Movement LOS	A	A	A	A	A	A				C	D	B
95th-Percentile Queue Length [veh/ln]	0.21	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.68	1.72	1.72
95th-Percentile Queue Length [ft/ln]	5.18	2.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.92	43.05	43.05
d_A, Approach Delay [s/veh]	1.19			0.00			0.00			13.80		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	3.50											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 3: Bernard Drive at SR-41

Control Type:	Signalized	Delay (sec / veh):	27.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.590

Intersection Setup

Name														
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				No			No		

Volumes

Name														
Base Volume Input [veh/h]	110	47	270	49	1	71	245	13	7	9	58	153	7	47
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00
Growth Factor	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.0820	1.0820	1.0820	1.0820	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	74	0	0	0	80	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	119	51	366	53	1	77	345	14	8	10	63	166	8	51
Peak Hour Factor	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	13	96	14	0	20	91	4	2	3	17	44	2	13
Total Analysis Volume [veh/h]	125	54	385	56	1	81	363	15	8	11	66	175	8	54
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups														
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	30	0	0	30	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	16	28	0	0	11	23	0	0	10	0	0	21	0
Vehicle Extension [s]	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	5	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	10	0	0	0	10	0	0	10	0	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	31	31	5	26	5	13
g / C, Green / Cycle	0.14	0.44	0.44	0.07	0.37	0.07	0.19
(v / s)_i Volume / Saturation Flow Rate	0.12	0.13	0.04	0.06	0.24	0.06	0.16
s, saturation flow rate [veh/h]	1487	2973	1327	1487	1551	1368	1450
c, Capacity [veh/h]	212	1313	586	100	568	100	274
d1, Uniform Delay [s]	29.23	12.53	11.39	32.23	18.60	32.06	27.50
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.73	0.57	0.32	15.03	6.07	17.55	7.93
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.29	0.10	0.82	0.67	0.85	0.86
d, Delay for Lane Group [s/veh]	37.96	13.09	11.71	47.26	24.67	49.61	35.43
Lane Group LOS	D	B	B	D	C	D	D
Critical Lane Group	Yes	No	No	No	Yes	Yes	Yes
50th-Percentile Queue Length [veh/ln]	3.32	1.86	0.52	1.74	5.67	1.86	4.26
50th-Percentile Queue Length [ft/ln]	83.02	46.55	12.94	43.54	141.73	46.49	106.39
95th-Percentile Queue Length [veh/ln]	5.98	3.35	0.93	3.13	9.57	3.35	7.64
95th-Percentile Queue Length [ft/ln]	149.43	83.78	23.29	78.37	239.36	83.68	190.97

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	37.96	37.96	13.09	11.71	47.26	47.26	24.67	24.67	49.61	49.61	49.61	35.43	35.43	35.43
Movement LOS	D	D	B	B	D	D	C	C	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	20.15				28.70				49.61			35.43		
Approach LOS	C				C				D			D		
d_I, Intersection Delay [s/veh]	27.32													
Intersection LOS	C													
Intersection V/C	0.590													

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	26.58	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.341	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	686	543	171	486
d_b, Bicycle Delay [s]	15.11	18.58	29.26	20.06
l_b,int, Bicycle LOS Score for Intersection	1.968	2.185	1.700	1.951
Bicycle LOS	A	B	A	A

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: 25th Avenue at SR-41

Control Type:	Two-way stop	Delay (sec / veh):	11.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.078

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	311	2	11	314	0	42
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.00	11.00	11.00	11.00	11.00	11.00
Growth Factor	1.0820	1.0820	1.0820	1.0820	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	74	0	0	80	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	411	2	12	420	0	45
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	108	1	3	111	0	12
Total Analysis Volume [veh/h]	433	2	13	442	0	47
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.08
d_M, Delay for Movement [s/veh]	0.00	0.00	8.38	0.00	17.31	11.47
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.04	0.04	0.00	0.25
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.91	0.91	0.00	6.31
d_A, Approach Delay [s/veh]	0.00		0.24		11.47	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.69					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 8: Utica Avenue at Frontage Road

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	0	2	0	44	54	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.00	11.00	11.00	11.00	11.00	11.00
Growth Factor	1.0820	1.0820	1.0820	1.0820	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	25	27	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	2	0	73	85	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	0	19	22	0
Total Analysis Volume [veh/h]	0	2	0	77	89	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

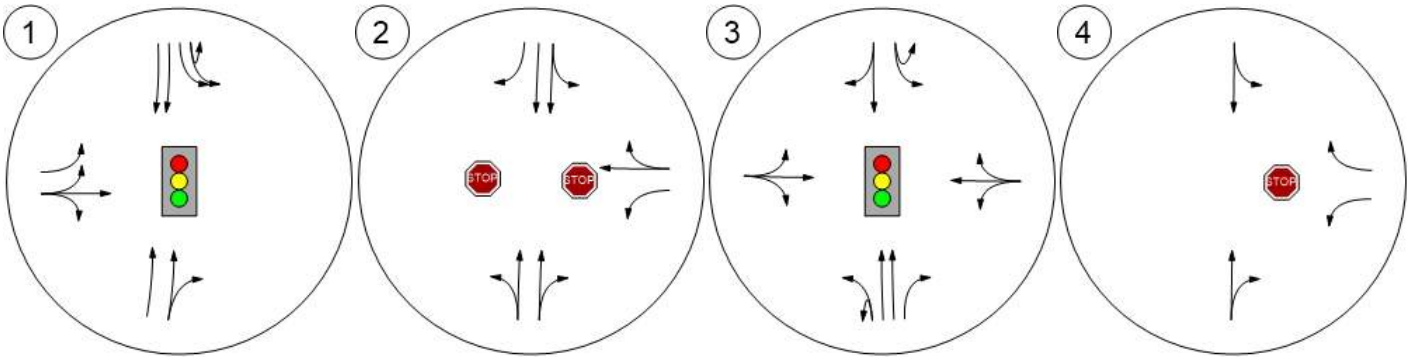
Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

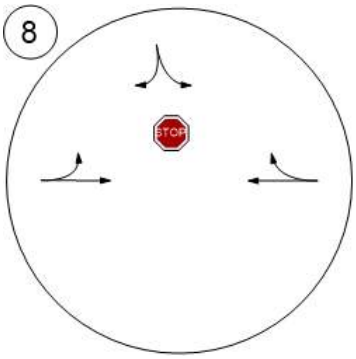
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.49	8.82	7.48	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.16	0.16	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.82		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.10					
Intersection LOS	A					

Lane Configuration and Traffic Control

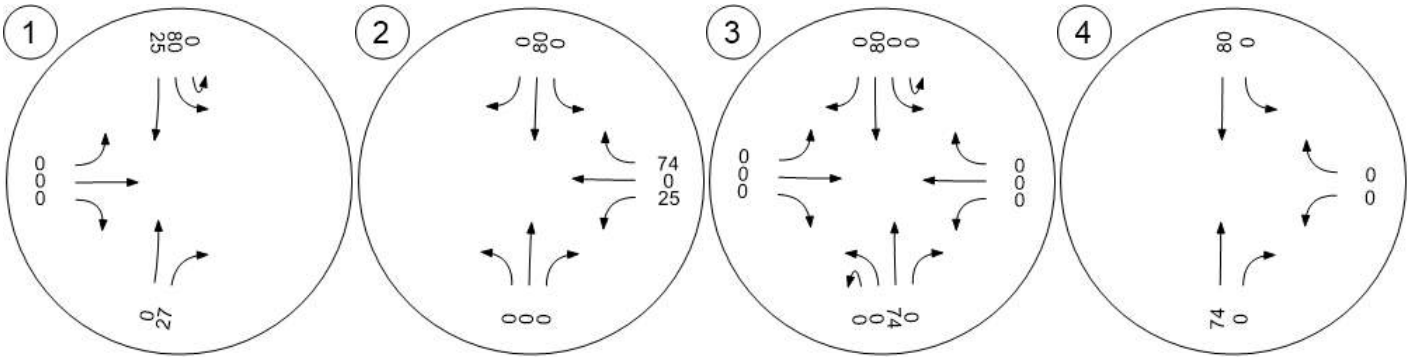






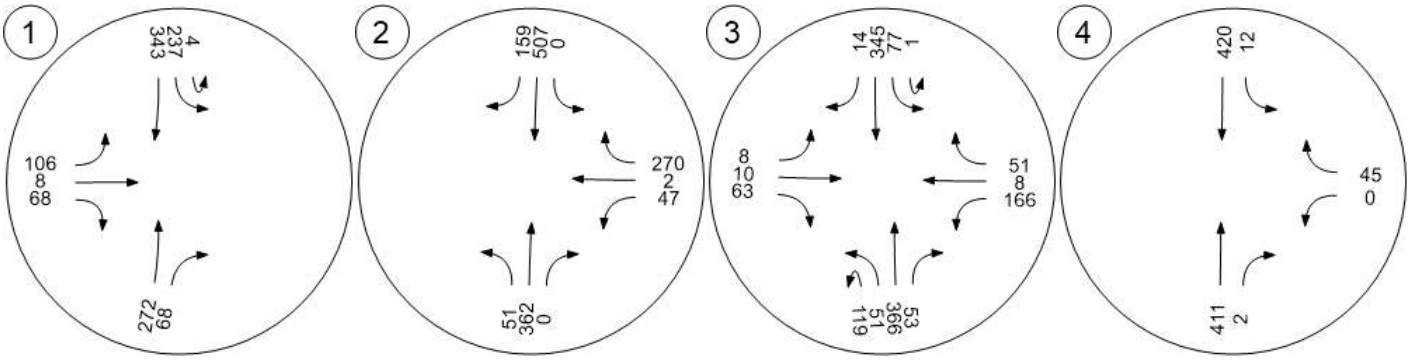
Traffic Volume - Net New Site Trips

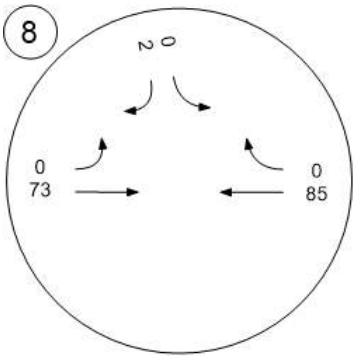




Traffic Volume - Future Total Volume







Intersection Level Of Service Report
Intersection 5: Utica Avenue at South Bound 25th Street

Control Type:	Roundabout	Delay (sec / veh):	6.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	6	14	5	2	4	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	13.00	13.00	13.00	13.00	13.00	13.00
Growth Factor	1.0820	1.0820	1.0820	1.0820	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	369	0	0	396	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	384	5	2	400	1
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	101	1	1	105	0
Total Analysis Volume [veh/h]	6	404	5	2	421	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	6		476		7	
Exiting Flow Rate [veh/h]	478		8		462	
Demand Flow Rate [veh/h]	6	384	5	2	400	1
Adjusted Demand Flow Rate [veh/h]	6	404	5	2	421	1

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	0.88	0.88	0.88
Entry Flow Rate [veh/h]	464	8	477
Capacity of Entry and Bypass Lanes [veh/h]	1373	850	1371
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1215	752	1213
X, volume / capacity	0.34	0.01	0.35

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	1.51	0.03	1.58
95th-Percentile Queue Length [ft]	37.67	0.70	39.39
Approach Delay [s/veh]	6.16	4.88	6.28
Approach LOS	A	A	A
Intersection Delay [s/veh]	6.21		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 6: Utica Avenue at South Bound I-5 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	16.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	21	3	2	0	19	1	0	3	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	13.00	13.00	13.00	2.00	13.00	13.00	13.00	13.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0820	1.0820	1.0820	1.0000	1.0820	1.0820	1.0820	1.0820	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	250	0	252	117	0	146	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	23	3	252	0	273	118	0	149	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	6	1	66	0	72	31	0	39	0
Total Analysis Volume [veh/h]	0	0	0	24	3	265	0	287	124	0	157	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane		No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.05	0.01	0.31	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	15.44	16.23	11.79	0.00	0.00	0.00	8.30	0.00	0.00
Movement LOS				C	C	B		A	A	A	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	1.70	1.70	1.70	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	42.41	42.41	42.41	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			12.14			0.00			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	4.12											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 7: Utica Avenue at North Bound I-5 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	23.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	1	4	2	0	0	0	10	31	0	0	2	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	13.00	13.00	13.00	2.00	2.00	2.00	13.00	13.00	2.00	2.00	13.00	13.00
Growth Factor	1.0820	1.0820	1.0820	1.0000	1.0000	1.0000	1.0820	1.0820	1.0000	1.0000	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	125	0	0	0	0	0	232	20	0	0	21	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	126	4	2	0	0	0	243	54	0	0	23	18
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	1	1	0	0	0	64	14	0	0	6	5
Total Analysis Volume [veh/h]	133	4	2	0	0	0	256	57	0	0	24	19
Pedestrian Volume [ped/h]	0			0			0			0		

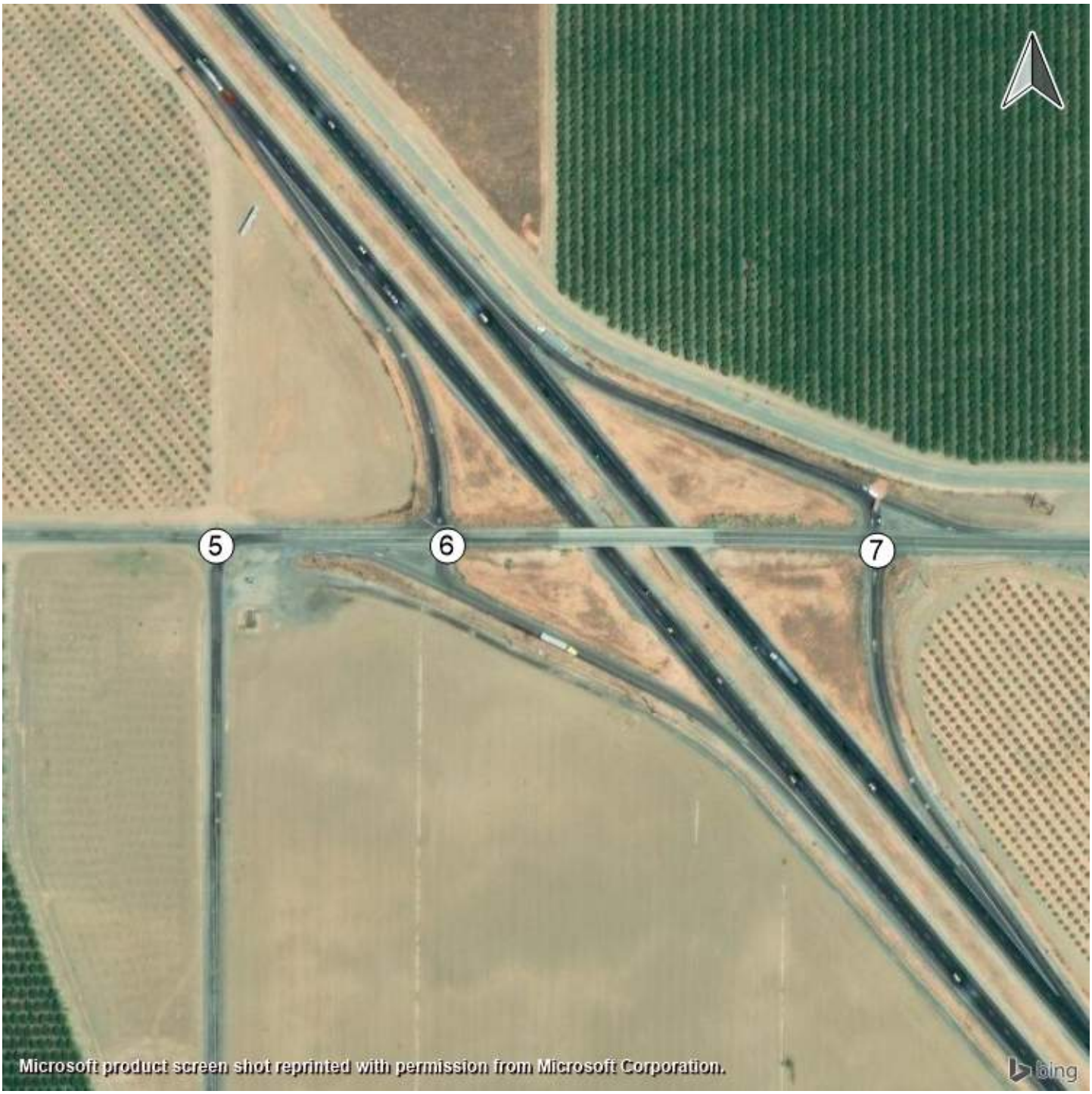
Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No			
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

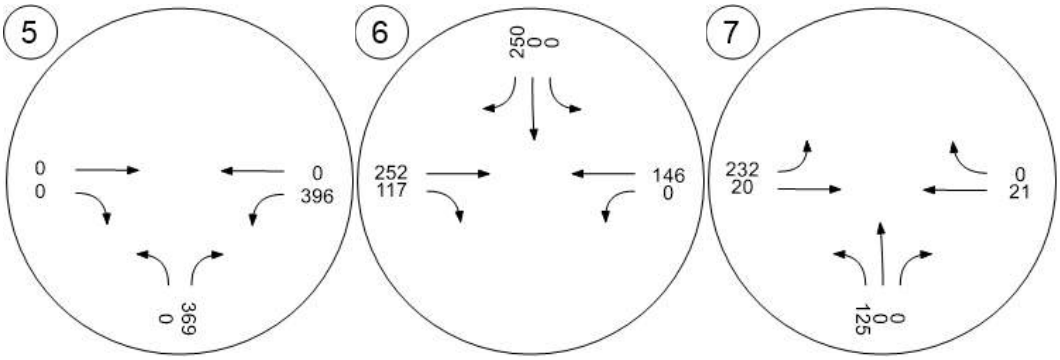
V/C, Movement V/C Ratio	0.41	0.01	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	23.83	23.88	16.46	0.00	0.00	0.00	7.90	0.00	0.00	0.00	0.00	0.00
Movement LOS	C	C	C				A	A			A	A
95th-Percentile Queue Length [veh/ln]	2.02	2.02	2.02	0.00	0.00	0.00	0.62	0.62	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	50.58	50.58	50.58	0.00	0.00	0.00	15.40	15.40	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	23.72			0.00			6.46			0.00		
Approach LOS	C			A			A			A		
d_I, Intersection Delay [s/veh]	10.75											
Intersection LOS	C											

Study Intersections



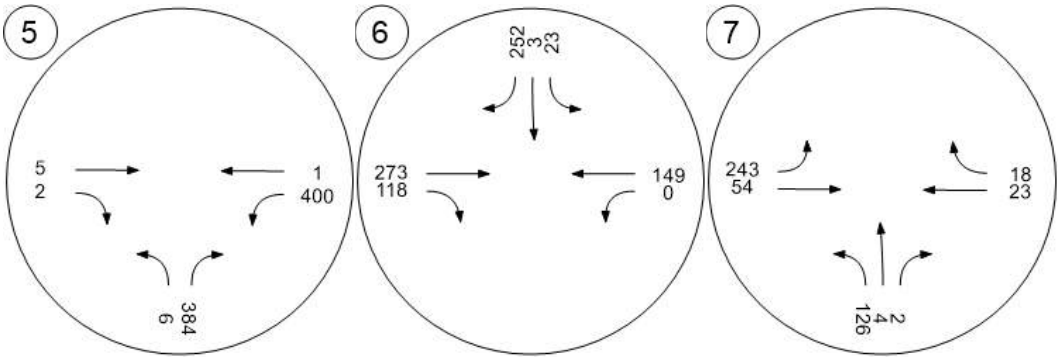
Traffic Volume - Net New Site Trips





Traffic Volume - Future Total Volume





Intersection Level Of Service Report
Intersection 1: South Bound I-5 at SR-41 Ramps

Control Type:	Signalized	Delay (sec / veh):	18.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.251

Intersection Setup

Name													
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No					
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name													
Base Volume Input [veh/h]	0	198	17	1	86	161	0	72	8	32	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	13.00	13.00	13.00	13.00	13.00	2.00	13.00	13.00	13.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0820	1.0820	1.082	1.082	1.082	1.000	1.0820	1.0820	1.0820	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	21	0	64	20	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	214	39	1	157	194	0	78	9	35	0	0	0
Peak Hour Factor	1.0000	0.9500	0.9500	0.950	0.950	0.950	1.000	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	56	10	0	41	51	0	21	2	9	0	0	0
Total Analysis Volume [veh/h]	0	225	41	1	165	204	0	82	9	37	0	0	0
Presence of On-Street Parking	No		No	No			No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0		
v_co, Outbound Pedestrian Volume crossing		0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0		
Bicycle Volume [bicycles/h]		0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permi	Prote	Permi	Permi	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	2	0	0	1	6	0	0	4	0	0	0	0
Auxiliary Signal Groups													
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	21	0	0	12	33	0	0	27	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	6	0	0	0	6	0	0	18	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No			No	No			No				
Maximum Recall		No			No	No			No				
Pedestrian Recall		No			No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	L	C	L	C	
C, Cycle Length [s]	60	60	60	60	60	60	60	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	36	36	8	8	48	4	4	
g / C, Green / Cycle	0.59	0.59	0.13	0.13	0.79	0.07	0.07	
(v / s)_i Volume / Saturation Flow Rate	0.09	0.09	0.11	0.11	0.07	0.04	0.05	
s, saturation flow rate [veh/h]	1534	1455	1461	1461	2921	1461	1374	
c, Capacity [veh/h]	907	860	196	196	2313	110	104	
d1, Uniform Delay [s]	5.52	5.54	25.43	25.41	1.40	26.92	26.96	
k, delay calibration	0.50	0.50	0.11	0.11	0.50	0.11	0.11	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.34	0.38	9.51	9.22	0.08	4.95	5.67	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.15	0.15	0.85	0.84	0.09	0.59	0.61	
d, Delay for Lane Group [s/veh]	5.86	5.93	34.94	34.63	1.48	31.86	32.63	
Lane Group LOS	A	A	C	C	A	C	C	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	0.66	0.67	2.69	2.66	0.09	1.01	0.99	
50th-Percentile Queue Length [ft/ln]	16.44	16.65	67.15	66.39	2.20	25.13	24.84	
95th-Percentile Queue Length [veh/ln]	1.18	1.20	4.83	4.78	0.16	1.81	1.79	
95th-Percentile Queue Length [ft/ln]	29.59	29.97	120.87	119.49	3.95	45.23	44.70	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	5.89	5.93	34.94	34.79	1.48	0.00	32.03	32.63	32.63	0.00	0.00	0.00
Movement LOS		A	A	C	C	A		C	C	C			
d_A, Approach Delay [s/veh]		5.89			22.09				32.24			0.00	
Approach LOS		A			C				C			A	
d_I, Intersection Delay [s/veh]						18.85							
Intersection LOS						B							
Intersection V/C						0.251							

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	21.68
l_p,int, Pedestrian LOS Score for Intersection	2.235	2.544	1.962	1.800
Crosswalk LOS	B	B	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	567	967	767	0
d_b, Bicycle Delay [s]	15.41	8.01	11.41	30.00
l_b,int, Bicycle LOS Score for Intersection	1.779	1.729	1.771	4.132
Bicycle LOS	A	A	A	D

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: North Bound I-5 at SR-41 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	14.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.061

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	25	246	0	0	244	97	0	0	0	4	0	102
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	13.00	13.00	13.00	13.00	13.00	13.00	2.00	2.00	2.00	13.00	13.00	13.00
Growth Factor	1.0820	1.0820	1.0820	1.0820	1.0820	1.0820	1.0000	1.0000	1.0000	1.0820	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	64	0	0	0	0	20	0	58
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	27	266	0	0	328	105	0	0	0	24	0	168
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	70	0	0	86	28	0	0	0	6	0	44
Total Analysis Volume [veh/h]	28	280	0	0	345	111	0	0	0	25	0	177
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.21
d_M, Delay for Movement [s/veh]	8.60	0.00	0.00	7.99	0.00	0.00	0.00	0.00	0.00	14.32	18.49	10.36
Movement LOS	A	A	A	A	A	A				B	C	B
95th-Percentile Queue Length [veh/ln]	0.08	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.78	0.78
95th-Percentile Queue Length [ft/ln]	2.10	1.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.84	19.58	19.58
d_A, Approach Delay [s/veh]	0.78			0.00			0.00			10.85		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	2.52											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 3: Bernard Drive at SR-41

Control Type:	Signalized	Delay (sec / veh):	20.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.376

Intersection Setup

Name														
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Curb Present	No				No				No			No		
Crosswalk	No				Yes				No			No		

Volumes

Name														
Base Volume Input [veh/h]	63	27	214	26	0	40	158	8	8	10	36	80	6	29
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00
Growth Factor	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.0820	1.0820	1.0820	1.0820	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	58	0	0	0	64	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	68	29	290	28	0	43	235	9	9	11	39	87	6	31
Peak Hour Factor	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	8	76	7	0	11	62	2	2	3	10	23	2	8
Total Analysis Volume [veh/h]	72	31	305	29	0	45	247	9	9	12	41	92	6	33
Presence of On-Street Parking	No			No	No			No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0				0				0			0		
v_di, Inbound Pedestrian Volume crossing m	0				0				0			0		
v_co, Outbound Pedestrian Volume crossing	0				0				0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0				0				0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0				0				0			0		
Bicycle Volume [bicycles/h]	0				0				0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permi	Prote	Permi	Permi	Permi	Prote	Permi	Permi	Split	Split	Split	Split	Split	Split
Signal Group	0	5	2	0	0	1	6	0	0	4	0	0	8	0
Auxiliary Signal Groups														
Lead / Lag	-	Lead	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	5	0	0	5	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	30	0	0	30	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	18	9	0	0	18	9	0	0	9	0	0	24	0
Vehicle Extension [s]	0.0	3.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	5	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	10	0	0	0	10	0	0	10	0	0	12	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk			No				No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No	No			No	No			No			No	
Maximum Recall		No	No			No	No			No			No	
Pedestrian Recall		No	No			No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	31	31	3	29	3	7
g / C, Green / Cycle	0.09	0.52	0.52	0.04	0.48	0.05	0.11
(v / s)_i Volume / Saturation Flow Rate	0.07	0.10	0.02	0.03	0.17	0.05	0.09
s, saturation flow rate [veh/h]	1461	2921	1304	1461	1525	1365	1421
c, Capacity [veh/h]	126	1520	679	66	731	74	162
d1, Uniform Delay [s]	26.94	7.71	7.06	28.20	9.77	28.13	25.96
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	11.93	0.30	0.12	11.41	1.32	21.64	9.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.20	0.04	0.68	0.35	0.84	0.81
d, Delay for Lane Group [s/veh]	38.87	8.01	7.18	39.61	11.10	49.77	35.25
Lane Group LOS	D	A	A	D	B	D	D
Critical Lane Group	Yes	No	No	No	Yes	Yes	Yes
50th-Percentile Queue Length [veh/ln]	1.79	0.93	0.17	0.82	2.05	1.28	2.13
50th-Percentile Queue Length [ft/ln]	44.67	23.23	4.33	20.39	51.14	31.98	53.34
95th-Percentile Queue Length [veh/ln]	3.22	1.67	0.31	1.47	3.68	2.30	3.84
95th-Percentile Queue Length [ft/ln]	80.41	41.82	7.80	36.71	92.05	57.57	96.01

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.87	38.87	8.01	7.18	39.61	39.61	11.10	11.10	49.77	49.77	49.77	35.25	35.25	35.25
Movement LOS	D	D	A	A	D	D	B	B	D	D	D	D	D	D
d_A, Approach Delay [s/veh]	15.23				15.36				49.77			35.25		
Approach LOS	B				B				D			D		
d_I, Intersection Delay [s/veh]	20.39													
Intersection LOS	C													
Intersection V/C	0.376													

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	21.68	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.270	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	167	167	167	667
d_b, Bicycle Delay [s]	25.21	25.21	25.21	13.33
l_b,int, Bicycle LOS Score for Intersection	1.861	1.982	1.662	1.776
Bicycle LOS	A	A	A	A

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: 25th Avenue at SR-41

Control Type:	Two-way stop	Delay (sec / veh):	13.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	242	1	13	188	2	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	13.00	13.00	13.00	13.00	13.00	13.00
Growth Factor	1.0820	1.0820	1.0820	1.0820	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	58	0	0	64	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	320	1	14	267	2	14
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	84	0	4	70	1	4
Total Analysis Volume [veh/h]	337	1	15	281	2	15
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	8.14	0.00	13.79	10.41
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.04	0.04	0.01	0.07
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.98	0.98	0.37	1.69
d_A, Approach Delay [s/veh]	0.00		0.41		10.81	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.47					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 8: Utica Avenue at Frontage Road

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	2	0	2	31	18	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	13.00	13.00	13.00	13.00	13.00	13.00
Growth Factor	1.0820	1.0820	1.0820	1.0820	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	20	21	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	0	2	54	40	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	1	14	11	0
Total Analysis Volume [veh/h]	2	0	2	57	42	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

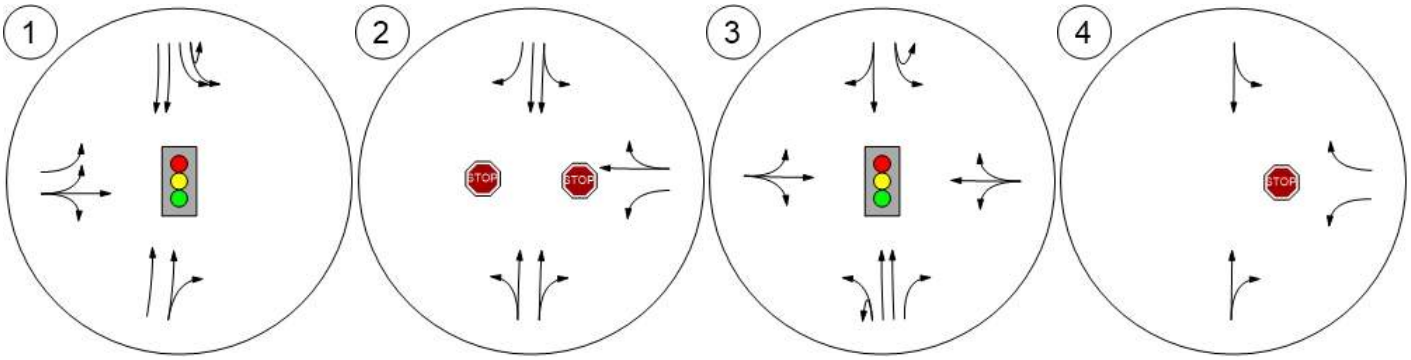
Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

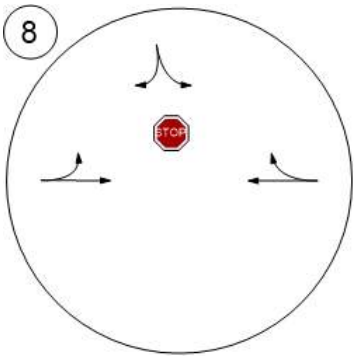
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.16	8.62	7.40	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.17	0.17	0.10	0.10	0.00	0.00
d_A, Approach Delay [s/veh]	9.16		0.25		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.32					
Intersection LOS	A					

Lane Configuration and Traffic Control

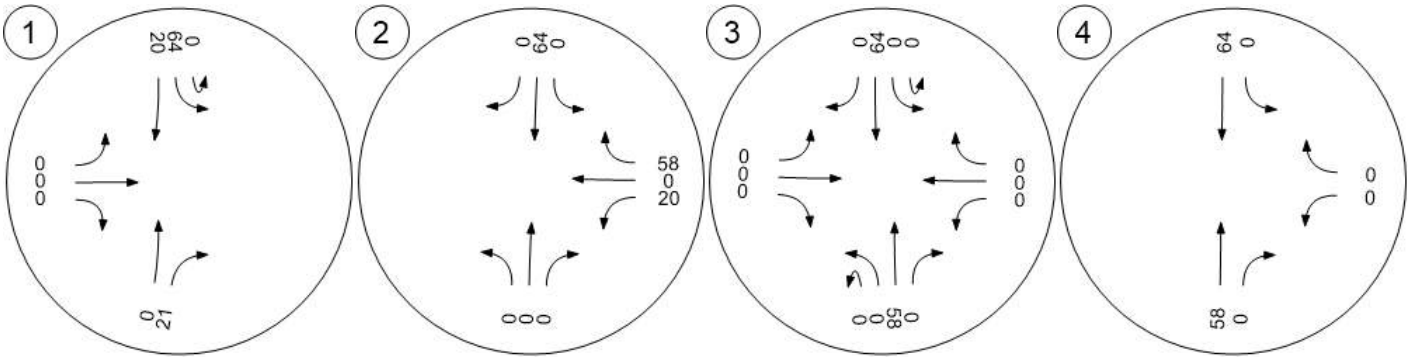


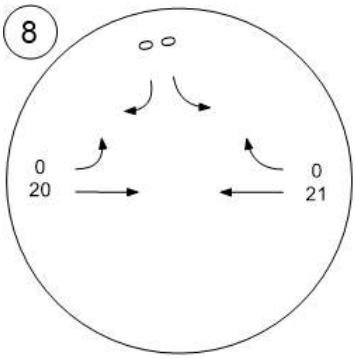




Traffic Volume - Net New Site Trips

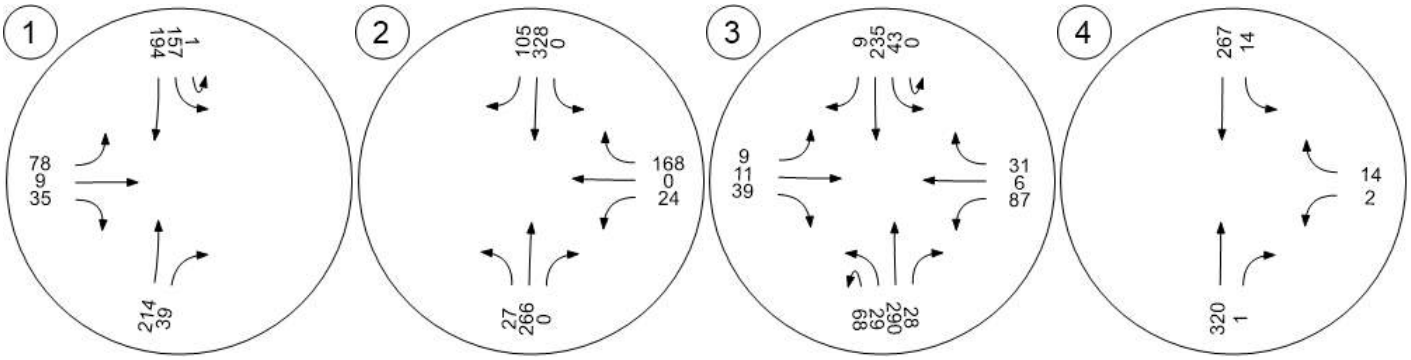


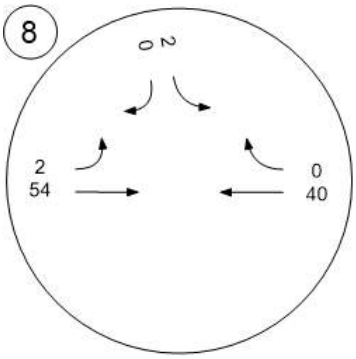




Traffic Volume - Future Total Volume







APPENDIX G: FREEWAY LOS CALCULATION OUTPUTS, 2023 CONDITIONS

HCS7 Basic Freeway Report

Project Information

Analyst	QGW	Date	2/7/2020
Agency		Analysis Year	Near-Term (2023)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	AM Peak Hour
Project Description	I-5 Northbound n SR41	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	844	Heavy Vehicle Adjustment Factor (f_{HV})	0.806
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	569
Total Trucks, %	24.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.24
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.9
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	QGW	Date	2/10/2020
Agency		Analysis Year	Near Term (2023)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	FRI Peak Hour
Project Description	I-5 Northbound n SR41	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1870	Heavy Vehicle Adjustment Factor (f_{HV})	0.855
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1188
Total Trucks, %	17.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.50
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.1
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	16.5
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	QGW	Date	2/7/2020
Agency		Analysis Year	Near Term (2023)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	PM Peak Hour
Project Description	I-5 Northbound n SR41	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1318	Heavy Vehicle Adjustment Factor (f_{HV})	0.826
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	867
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.36
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.0
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Freeway Diverge Report

Project Information			
Analyst	QGW	Date	2/25/2020
Agency		Analysis Year	Near Term (2023)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	FRI Peak Hour
Project Description	I-5 Northbound Off-Ramp at SR-41	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	170
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	Balanced Mix	Balanced Mix
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.950	0.950
Final Capacity Adjustment Factor (CAF)	0.939	0.939
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	1786	212
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	17.00	11.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.855	0.901
Flow Rate (vi),pc/h	2271	256
Capacity (c), pc/h	4507	1878
Volume-to-Capacity Ratio (v/c)	0.50	0.14

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.474
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	57.6
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	78.5
Flow in Lanes 1 and 2 (v12), pc/h	2271	Ramp Junction Speed (S), mi/h	57.6
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	19.7
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	22.3

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HCS7 Freeway Diverge Report

Project Information			
Analyst	QGW	Date	2/25/2020
Agency		Analysis Year	Near Term (2023)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	AM Peak Hour
Project Description	I-5 Northbound Off-Ramp at SR-41	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	170
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	Balanced Mix	Balanced Mix
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.950	0.950
Final Capacity Adjustment Factor (CAF)	0.939	0.939
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	1297	132
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	21.00	13.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.885
Flow Rate (vi),pc/h	1707	162
Capacity (c), pc/h	4507	1878
Volume-to-Capacity Ratio (v/c)	0.38	0.09

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.466
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	57.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	78.5
Flow in Lanes 1 and 2 (v12), pc/h	1707	Ramp Junction Speed (S), mi/h	57.8
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	14.8
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	17.4

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HCS7 Freeway Merge Report

Project Information			
Analyst	QGW	Date	2/19/2020
Agency		Analysis Year	Near-Term (2023)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	AM Peak Hour
Project Description	I-5 Northbound On-Ramp at Utica Avenue	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	570
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	Balanced Mix	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.950	1.000
Final Capacity Adjustment Factor (CAF)	0.939	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	863	18
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	22.00	23.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.820	0.813
Flow Rate (vi),pc/h	1144	24
Capacity (c), pc/h	4507	2000
Volume-to-Capacity Ratio (v/c)	0.26	0.01

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.294
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.9
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	71.6
Flow in Lanes 1 and 2 (v12), pc/h	1144	Ramp Junction Speed (S), mi/h	62.9
Flow Entering Ramp-Infl. Area (vR12), pc/h	1168	Average Density (D), pc/mi/ln	9.3
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	11.1

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HCS7 Freeway Merge Report

Project Information			
Analyst	QGW	Date	2/14/2020
Agency		Analysis Year	Near-Term (2023)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	FRI Peak Hour
Project Description	I-5 Northbound On-Ramp at Utica Avenue	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	570
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	Balanced Mix	Balanced Mix
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.950	0.950
Final Capacity Adjustment Factor (CAF)	0.939	0.939
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	1786	111
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	17.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.855	0.980
Flow Rate (vi),pc/h	2271	123
Capacity (c), pc/h	4507	1878
Volume-to-Capacity Ratio (v/c)	0.53	0.07

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.326
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.0
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	71.6
Flow in Lanes 1 and 2 (v12), pc/h	2271	Ramp Junction Speed (S), mi/h	62.0
Flow Entering Ramp-Infl. Area (vR12), pc/h	2394	Average Density (D), pc/mi/ln	19.3
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	20.6

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HCS7 Freeway Merge Report

Project Information			
Analyst	QGW	Date	2/19/2020
Agency		Analysis Year	Near-Term (2023)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	PM Peak Hour
Project Description	I-5 Northbound On-Ramp at Utica Avenue	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	570
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	Balanced Mix	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.950	1.000
Final Capacity Adjustment Factor (CAF)	0.939	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	1297	34
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	21.00	13.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.885
Flow Rate (vi),pc/h	1707	42
Capacity (c), pc/h	4507	2000
Volume-to-Capacity Ratio (v/c)	0.39	0.02

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.304
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.6
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	71.6
Flow in Lanes 1 and 2 (v12), pc/h	1707	Ramp Junction Speed (S), mi/h	62.6
Flow Entering Ramp-Infl. Area (vR12), pc/h	1749	Average Density (D), pc/mi/ln	14.0
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	15.6

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HCS7 Basic Freeway Report

Project Information

Analyst	QGW	Date	2/7/2020
Agency		Analysis Year	Near-Term (2023)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	Weekday AM Peak Hour
Project Description	I-5 Northbound s/o Utica	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	863	Heavy Vehicle Adjustment Factor (f_{HV})	0.820
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	572
Total Trucks, %	22.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.24
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.9
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	QGW	Date	2/10/2020
Agency		Analysis Year	Near Term (2023)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	Friday Peak Hour
Project Description	I-5 Northbound s/o Utica	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1786	Heavy Vehicle Adjustment Factor (f_{HV})	0.855
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1136
Total Trucks, %	17.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	15.7
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	QGW	Date	2/7/2020
Agency		Analysis Year	Near Term (2023)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	Weekday PM Peak Hour
Project Description	I-5 Northbound s/o Utica	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1297	Heavy Vehicle Adjustment Factor (f_{HV})	0.826
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	854
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.36
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.8
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	QGW	Date	8/23/2019
Agency		Analysis Year	Near-Term (2023)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	AM Peak Hour
Project Description	I-5 Northbound Utica to SR41	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	863	Heavy Vehicle Adjustment Factor (f_{HV})	0.820
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	572
Total Trucks, %	22.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.24
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	7.9
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	QGW	Date	2/10/2020
Agency		Analysis Year	Near Term (2023)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	Friday Peak Hour
Project Description	I-5 Northbound Utica to SR41	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1786	Heavy Vehicle Adjustment Factor (f_{HV})	0.855
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1136
Total Trucks, %	17.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	15.7
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	QGW	Date	2/7/2020
Agency		Analysis Year	Near Term (2023)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	PM Peak Hour
Project Description	I-5 Northbound Utica to SR41	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1297	Heavy Vehicle Adjustment Factor (f_{HV})	0.826
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	854
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.36
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.8
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	QGW	Date	2/7/2020
Agency		Analysis Year	Near Term (2023)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	AM Peak Hour
Project Description	I-5 Northbound n SR41	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	972	Heavy Vehicle Adjustment Factor (f_{HV})	0.813
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	650
Total Trucks, %	23.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.27
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	9.0
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	QGW	Date	2/10/2020
Agency		Analysis Year	Near Term (2023)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	FRI Peak Hour
Project Description	I-5 Southbound n SR41	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1904	Heavy Vehicle Adjustment Factor (f_{HV})	0.862
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1200
Total Trucks, %	16.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.50
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.1
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	16.6
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	QGW	Date	2/7/2020
Agency		Analysis Year	Near Term (2023)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	PM Peak Hour
Project Description	I-5 Southbound n SR41	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1283	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	837
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.35
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.6
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Freeway Diverge Report

Project Information			
Analyst	QGW	Date	2/19/2020
Agency		Analysis Year	Near Term (2023)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	AM Peak Hour
Project Description	I-5 Southbound Off-Ramp	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	170
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	Balanced Mix	Balanced Mix
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.950	0.950
Final Capacity Adjustment Factor (CAF)	0.939	0.939
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	946	15
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	24.00	23.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.806	0.813
Flow Rate (vi),pc/h	1276	20
Capacity (c), pc/h	4507	1878
Volume-to-Capacity Ratio (v/c)	0.28	0.01

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.453
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	58.2
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	78.5
Flow in Lanes 1 and 2 (v12), pc/h	1276	Ramp Junction Speed (S), mi/h	58.2
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	11.0
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	13.7

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HCS7 Freeway Diverge Report

Project Information			
Analyst	QGW	Date	2/21/2020
Agency		Analysis Year	Near-Term (2023)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	FRI Peak Hour
Project Description	I-5 Southbound Off-Ramp	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	170
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	Balanced Mix	Balanced Mix
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.950	0.950
Final Capacity Adjustment Factor (CAF)	0.939	0.939
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	1881	15
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	17.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.855	0.980
Flow Rate (vi),pc/h	2391	17
Capacity (c), pc/h	4507	1878
Volume-to-Capacity Ratio (v/c)	0.53	0.01

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.453
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	58.2
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	78.5
Flow in Lanes 1 and 2 (v12), pc/h	2391	Ramp Junction Speed (S), mi/h	58.2
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	20.5
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	23.3

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HCS7 Freeway Diverge Report

Project Information			
Analyst	QGW	Date	2/19/2020
Agency		Analysis Year	Near Term (2023)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	pM Peak Hour
Project Description	I-5 Southbound Off-Ramp	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	170
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	Balanced Mix	Balanced Mix
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.950	0.950
Final Capacity Adjustment Factor (CAF)	0.939	0.939
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	1302	4
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	20.00	13.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.885
Flow Rate (vi),pc/h	1699	5
Capacity (c), pc/h	4507	1878
Volume-to-Capacity Ratio (v/c)	0.38	0.00

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.452
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	58.2
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	78.5
Flow in Lanes 1 and 2 (v12), pc/h	1699	Ramp Junction Speed (S), mi/h	58.2
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	14.6
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	17.3

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HCS7 Freeway Merge Report

Project Information			
Analyst	QGW	Date	2/25/2020
Agency		Analysis Year	Near Term (2023)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	FRI Peak Hour
Project Description	I-5 Southbound On-Ramp	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	Balanced Mix	Balanced Mix
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.950	0.950
Final Capacity Adjustment Factor (CAF)	0.939	0.939
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	1881	182
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	17.00	11.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.855	0.901
Flow Rate (vi),pc/h	2391	220
Capacity (c), pc/h	4507	1878
Volume-to-Capacity Ratio (v/c)	0.58	0.12

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.341
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	61.5
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	71.6
Flow in Lanes 1 and 2 (v12), pc/h	2391	Ramp Junction Speed (S), mi/h	61.5
Flow Entering Ramp-Infl. Area (vR12), pc/h	2611	Average Density (D), pc/mi/ln	21.2
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	22.7

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HCS7 Freeway Merge Report

Project Information			
Analyst	QGW	Date	2/25/2020
Agency		Analysis Year	Near Term (2023)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	FRI Peak Hour
Project Description	I-5 Southbound On-Ramp	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	Balanced Mix	Balanced Mix
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.950	0.950
Final Capacity Adjustment Factor (CAF)	0.939	0.939
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	1302	121
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	20.00	13.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.885
Flow Rate (vi),pc/h	1699	149
Capacity (c), pc/h	4507	1878
Volume-to-Capacity Ratio (v/c)	0.41	0.08

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.313
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.3
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	71.6
Flow in Lanes 1 and 2 (v12), pc/h	1699	Ramp Junction Speed (S), mi/h	62.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	1848	Average Density (D), pc/mi/ln	14.8
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	16.8

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HCS7 Basic Freeway Report

Project Information

Analyst	QGW	Date	2/7/2020
Agency		Analysis Year	Existing (2019)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	Weekday AM Peak Hour
Project Description	I-5 Southbound s/o Utica	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	946	Heavy Vehicle Adjustment Factor (f_{HV})	0.806
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	638
Total Trucks, %	24.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.27
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	8.8
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	QGW	Date	2/10/2020
Agency		Analysis Year	Near Term (2023)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	Friday Peak Hour
Project Description	I-5 Southbound s/o Utica	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1881	Heavy Vehicle Adjustment Factor (f_{HV})	0.855
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1196
Total Trucks, %	17.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.50
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.1
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	16.6
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	QGW	Date	2/7/2020
Agency		Analysis Year	Near Term (2023)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	Weekday PM Peak Hour
Project Description	I-5 Southbound s/o Utica	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1302	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	850
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.35
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.8
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	QGW	Date	2/7/2020
Agency		Analysis Year	Near Term (2023)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	AM Peak Hour
Project Description	I-5 Southbound Utica to SR41	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	946	Heavy Vehicle Adjustment Factor (f_{HV})	0.806
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	638
Total Trucks, %	24.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.27
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	8.8
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	QGW	Date	2/10/2020
Agency		Analysis Year	Near Term (2023)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	Friday Peak Hour
Project Description	I-5 Southbound Utica to SR41	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1881	Heavy Vehicle Adjustment Factor (f_{HV})	0.855
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1196
Total Trucks, %	17.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.50
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.1
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	16.6
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	QGW	Date	2/7/2020
Agency		Analysis Year	Near Term (2023)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	PM Peak Hour
Project Description	I-5 Southbound Utica to SR41	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1302	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	850
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.35
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.8
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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APPENDIX H: INTERSECTION VOLUMES, DELAY, AND LOS CALCULATION OUTPUTS, 2040 CONDITIONS

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Vistro File: H:\...\JacksonRanch.vistro
Report File: H:\...\2040 NP AM.pdf
Scenario 14 BO_AM_NP
4/15/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	South Bound I-5 at SR-41 Ramps	Signalized	HCM 6th Edition	EB Right	0.200	16.8	B
2	North Bound I-5 at SR-41 Ramps	Two-way stop	HCM 6th Edition	WB Thru	0.007	13.8	B
3	Bernard Drive at SR-41	Roundabout	HCM 6th Edition	EB Right		5.3	A
4	25th Avenue at SR-41	Two-way stop	HCM 6th Edition	WB Left	0.034	12.1	B
5	Utica Avenue at South Bound 25th Street	Two-way stop	HCM 6th Edition	NB Left	0.004	8.9	A
6	Utica Avenue at South Bound I-5 Ramps	Two-way stop	HCM 6th Edition	SB Thru	0.006	9.6	A
7	Utica Avenue at North Bound I-5 Ramps	Two-way stop	HCM 6th Edition	NB Thru	0.018	10.0	B
8	Utica Avenue at Frontage Road	Two-way stop	HCM 6th Edition	WB Thru	0.000	0.0	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: South Bound I-5 at SR-41 Ramps

Control Type:	Signalized	Delay (sec / veh):	16.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.200

Intersection Setup

Name													
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.	100.	100.	100.	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No					
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name													
Base Volume Input [veh/h]	0	102	5	2	67	146	0	69	2	18	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	23.00	23.00	23.0	23.0	23.0	2.00	23.00	23.00	23.00	2.00	2.00	2.00
Growth Factor	1.0000	1.5160	1.5160	1.51	1.51	1.51	1.00	1.5160	1.5160	1.5160	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	155	8	3	102	221	0	105	3	27	0	0	0
Peak Hour Factor	1.0000	0.9500	0.9500	0.95	0.95	0.95	1.00	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	41	2	1	27	58	0	28	1	7	0	0	0
Total Analysis Volume [veh/h]	0	163	8	3	107	233	0	111	3	28	0	0	0
Presence of On-Street Parking	No		No	No			No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree		0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [		0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor stree		0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [		0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0		
Bicycle Volume [bicycles/h]		0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permis	Permis	Permis	Perm	Prote	Perm	Perm	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	0	2	0	0	1	6	0	0	4	0	0	0	0
Auxiliary Signal Groups													
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	19	0	0	14	33	0	0	27	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	6	0	0	0	6	0	0	18	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No			No	No			No				
Maximum Recall		No			No	No			No				
Pedestrian Recall		No			No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	L	C	L	C	
C, Cycle Length [s]	60	60	60	60	60	60	60	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	36	36	7	7	47	5	5	
g / C, Green / Cycle	0.60	0.60	0.11	0.11	0.78	0.08	0.08	
(v / s)_i Volume / Saturation Flow Rate	0.06	0.06	0.08	0.08	0.09	0.05	0.06	
s, saturation flow rate [veh/h]	1399	1377	1333	1333	2664	1333	1274	
c, Capacity [veh/h]	841	828	153	153	2084	113	108	
d1, Uniform Delay [s]	5.10	5.10	25.71	25.64	1.56	26.63	26.66	
k, delay calibration	0.50	0.50	0.11	0.11	0.50	0.11	0.11	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.24	0.25	6.26	5.73	0.11	5.78	6.40	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.10	0.10	0.72	0.70	0.11	0.64	0.65	
d, Delay for Lane Group [s/veh]	5.34	5.35	31.97	31.37	1.67	32.41	33.06	
Lane Group LOS	A	A	C	C	A	C	C	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	0.40	0.40	1.69	1.63	0.13	1.12	1.11	
50th-Percentile Queue Length [ft/ln]	9.94	9.98	42.33	40.71	3.14	28.09	27.84	
95th-Percentile Queue Length [veh/ln]	0.72	0.72	3.05	2.93	0.23	2.02	2.00	
95th-Percentile Queue Length [ft/ln]	17.89	17.96	76.20	73.28	5.65	50.56	50.10	

Movement, Approach, & Intersection Results

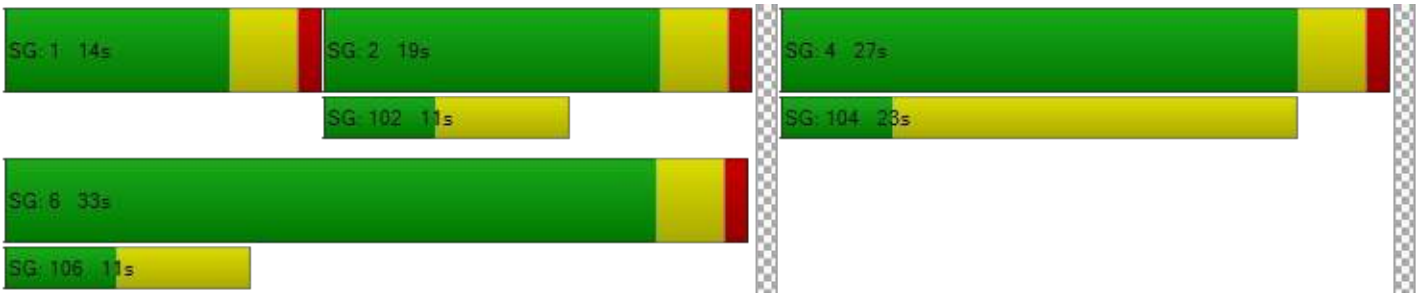
d_M, Delay for Movement [s/veh]	0.00	5.35	5.35	31.9	31.6	1.67	0.00	32.64	33.06	33.06	0.00	0.00	0.00
Movement LOS		A	A	C	C	A		C	C	C			
d_A, Approach Delay [s/veh]	5.35			16.14				32.73			0.00		
Approach LOS	A			B				C			A		
d_I, Intersection Delay [s/veh]	16.81												
Intersection LOS	B												
Intersection V/C	0.200												

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	21.68
l_p,int, Pedestrian LOS Score for Intersection	2.217	2.534	1.967	1.753
Crosswalk LOS	B	B	A	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	500	967	767	0
d_b, Bicycle Delay [s]	16.88	8.01	11.41	30.00
l_b,int, Bicycle LOS Score for Intersection	1.701	1.754	1.794	4.132
Bicycle LOS	A	A	A	D

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: North Bound I-5 at SR-41 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	13.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.007

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	24	149	0	0	186	63	0	0	0	27	2	85
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	23.00	23.00	23.00	23.00	23.00	23.00	2.00	2.00	2.00	23.00	23.00	23.00
Growth Factor	1.5160	1.5160	1.5160	1.5160	1.5160	1.5160	1.0000	1.0000	1.0000	1.5160	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	226	0	0	282	96	0	0	0	41	3	129
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	59	0	0	74	25	0	0	0	11	1	34
Total Analysis Volume [veh/h]	38	238	0	0	297	101	0	0	0	43	3	136
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				Yes
Number of Storage Spaces in Median	0	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.01	0.16
d_M, Delay for Movement [s/veh]	8.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.35	13.84	10.06
Movement LOS	A	A			A	A				B	B	B
95th-Percentile Queue Length [veh/ln]	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28	0.28	0.57
95th-Percentile Queue Length [ft/ln]	2.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.10	7.10	14.25
d_A, Approach Delay [s/veh]	1.19			0.00			0.00			10.66		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	2.65											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 3: Bernard Drive at SR-41

Control Type:	Roundabout	Delay (sec / veh):	5.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name														
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	1	1	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.2	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Crosswalk	No				Yes				No			No		

Volumes

Name														
Base Volume Input [veh/h]	39	39	115	21	0	43	132	8	5	10	38	49	5	18
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.00	23.00	23.00	23.00	23.00	23.00
Growth Factor	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.5160	1.5160	1.5160	1.5160	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	59	59	174	32	0	65	200	12	8	15	58	74	8	27
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	16	46	8	0	17	53	3	2	4	15	19	2	7
Total Analysis Volume [veh/h]	62	62	183	34	0	68	211	13	8	16	61	78	8	28
Pedestrian Volume [ped/h]	0				0				0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1				1				1				1		
Circulating Flow Rate [veh/h]	113				258				515				387		
Exiting Flow Rate [veh/h]	507				269				102				145		
Demand Flow Rate [veh/h]	59	59	174	32	0	65	200	12	8	15	58		74	8	27
Adjusted Demand Flow Rate [veh/h]	62	62	183	34	0	68	211	13	8	16	61		78	8	28

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00091	0.00091	0.00091	0.00091	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Entry Flow Rate [veh/h]	198	223	169	191	30	76	96	45
Capacity of Entry and Bypass Lanes [veh/h]	1282	1282	1123	1123	889	889	999	999
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1042	1042	913	913	723	723	812	812
X, volume / capacity	0.15	0.17	0.15	0.17	0.03	0.08	0.10	0.04

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.54	0.63	0.53	0.61	0.10	0.28	0.32	0.14
95th-Percentile Queue Length [ft]	13.57	15.66	13.20	15.22	2.57	6.90	7.95	3.48
Approach Delay [s/veh]	4.96		5.50		5.71		5.22	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	5.26							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 4: 25th Avenue at SR-41

Control Type:	Two-way stop	Delay (sec / veh):	12.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.034

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	113	4	8	181	11	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.5160	1.5160	1.5160	1.5160	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	171	6	12	274	17	30
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	2	3	72	4	8
Total Analysis Volume [veh/h]	180	6	13	288	18	32
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.03	0.04
d_M, Delay for Movement [s/veh]	0.00	0.00	7.62	0.00	12.08	9.35
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.03	0.03	0.11	0.12
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.71	0.71	2.65	2.90
d_A, Approach Delay [s/veh]	0.00		0.33		10.33	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.15					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Utica Avenue at South Bound 25th Street

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	4	12	14	0	6	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	23.00	23.00	23.00	23.00	23.00	23.00
Growth Factor	1.0820	1.0820	1.0820	1.0820	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	13	15	0	6	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	3	4	0	2	1
Total Analysis Volume [veh/h]	4	14	16	0	6	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.94	8.65	0.00	0.00	7.45	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	1.39	1.39	0.00	0.00	0.31	0.31
d_A, Approach Delay [s/veh]	8.71		0.00		5.59	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.80					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Utica Avenue at South Bound I-5 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	9.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	15	3	4	0	12	15	0	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	23.00	23.00	23.00	2.00	23.00	23.00	23.00	23.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.5160	1.5160	1.5160	1.0000	1.5160	1.5160	1.5160	1.5160	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	23	5	6	0	18	23	0	6	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	6	1	2	0	5	6	0	2	0
Total Analysis Volume [veh/h]	0	0	0	24	5	6	0	19	24	0	6	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop			Stop			Free			Free		
Flared Lane				No								
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance				No								
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	9.08	9.64	8.69	0.00	0.00	0.00	7.50	0.00	0.00
Movement LOS				A	A	A		A	A	A	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.12	0.12	0.12	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	2.98	2.98	2.98	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			9.09			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.79											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 7: Utica Avenue at North Bound I-5 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	10.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.018

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	1	8	4	0	0	0	9	22	0	0	3	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	23.00	23.00	23.00	2.00	2.00	2.00	23.00	23.00	2.00	2.00	23.00	23.00
Growth Factor	1.5160	1.5160	1.5160	1.0000	1.0000	1.0000	1.5160	1.5160	1.0000	1.0000	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	12	6	0	0	0	14	33	0	0	5	35
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	3	2	0	0	0	4	9	0	0	1	9
Total Analysis Volume [veh/h]	2	13	6	0	0	0	15	35	0	0	5	37
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No			
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.41	10.00	8.79	0.00	0.00	0.00	7.52	0.00	0.00	0.00	0.00	0.00
Movement LOS	A	B	A				A	A			A	A
95th-Percentile Queue Length [veh/ln]	0.08	0.08	0.08	0.00	0.00	0.00	0.03	0.03	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.01	2.01	2.01	0.00	0.00	0.00	0.79	0.79	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.60			0.00			2.26			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.78											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 8: Utica Avenue at Frontage Road

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	23	24	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	23.00	23.00	23.00	23.00	23.00	23.00
Growth Factor	1.5160	1.5160	1.5160	1.5160	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	35	36	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	9	9	0
Total Analysis Volume [veh/h]	0	0	0	37	38	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.10	8.68	7.49	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.89		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

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Scenario 14 BO_AM_NP
4/15/2020

Turning Movement Volume: Summary

ID	Intersection Name	Northbound		Southbound			Eastbound			Total Volume
		Thru	Right	U-T	Left	Thru	Left	Thru	Right	
1	South Bound I-5 at SR-41 Ramps	155	8	3	102	221	105	3	27	624

ID	Intersection Name	Northbound		Southbound		Westbound			Total Volume
		Left	Thru	Thru	Right	Left	Thru	Right	
2	North Bound I-5 at SR-41 Ramps	36	226	282	96	41	3	129	813

ID	Intersection Name	Northbound				Southbound				Eastbound			Westbound		
		U-T	Left	Thru	Right	U-T	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3	Bernard Drive at SR-41	59	59	174	32	0	65	200	12	8	15	58	74	8	27

Total Volume
791

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
4	25th Avenue at SR-41	171	6	12	274	17	30	510

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
5	Utica Avenue at South Bound 25th Street	4	13	15	0	6	2	40

ID	Intersection Name	Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Thru	Right	Left	Thru	
6	Utica Avenue at South Bound I-5 Ramps	23	5	6	18	23	0	6	81

ID	Intersection Name	Northbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Thru	Right	
7	Utica Avenue at North Bound I-5 Ramps	2	12	6	14	33	5	35	107

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
8	Utica Avenue at Frontage Road	0	0	0	35	36	0	71

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Scenario 14 BO_AM_NP
4/15/2020

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound		Southbound			Eastbound			Total Volume
			Thru	Right	U-T	Left	Thru	Left	Thru	Right	
1	South Bound I-5 at SR-41 Ramps	Final Base	102	5	2	67	146	69	2	18	411
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0
		Future Total	**155**	**8**	**3**	**102**	**221**	**105**	**3**	**27**	**624**

ID	Intersection Name	Volume Type	Northbound		Southbound		Westbound			Total Volume
			Left	Thru	Thru	Right	Left	Thru	Right	
2	North Bound I-5 at SR-41 Ramps	Final Base	24	149	186	63	27	2	85	536
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0
		Future Total	**36**	**226**	**282**	**96**	**41**	**3**	**129**	**813**

ID	Intersection Name	Volume Type	Northbound				Southbound				Eastbound			Westbound			Total Volume
			U-T	Left	Thru	Right	U-T	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Bernard Drive at SR-41	Final Base	39	39	115	21	0	43	132	8	5	10	38	49	5	18	522
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**59**	**59**	**174**	**32**	**0**	**65**	**200**	**12**	**8**	**15**	**58**	**74**	**8**	**27**	**791**

ID	Intersection Name	Volume Type	Northbound		Southbound		Westbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
4	25th Avenue at SR-41	Final Base	113	4	8	181	11	20	337
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	**171**	**6**	**12**	**274**	**17**	**30**	**510**

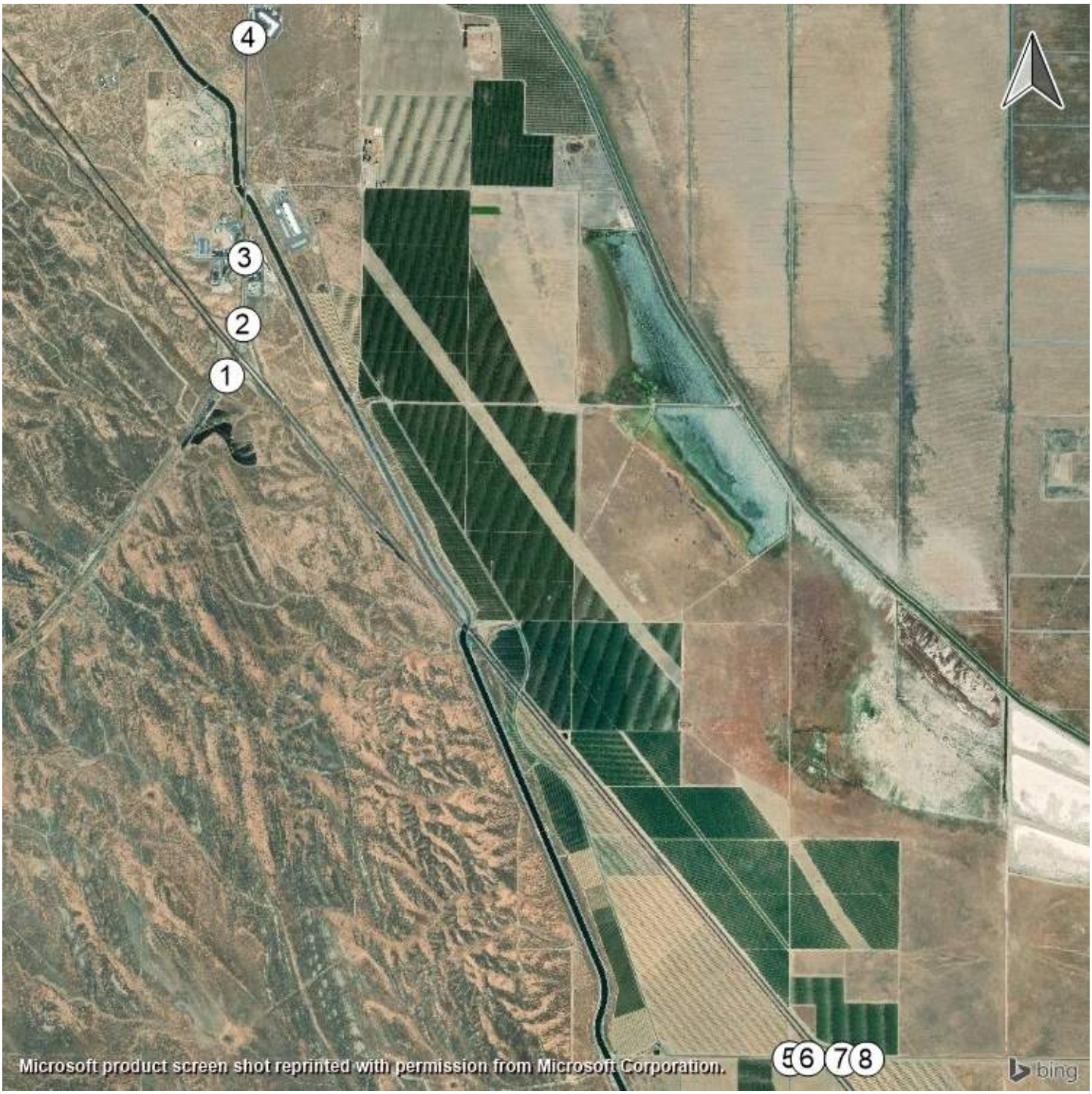
ID	Intersection Name	Volume Type	Northbound		Eastbound		Westbound		Total Volume
			Left	Right	Thru	Right	Left	Thru	
5	Utica Avenue at South Bound 25th Street	Final Base	4	12	14	0	6	2	38
		Growth Factor	1.08	1.08	1.08	1.08	1.08	1.08	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	**4**	**13**	**15**	**0**	**6**	**2**	**40**

ID	Intersection Name	Volume Type	Southbound			Eastbound		Westbound		Total Volume
			Left	Thru	Right	Thru	Right	Left	Thru	
6	Utica Avenue at South Bound I-5 Ramps	Final Base	15	3	4	12	15	0	4	53
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0
		Future Total	**23**	**5**	**6**	**18**	**23**	**0**	**6**	**81**

ID	Intersection Name	Volume Type	Northbound			Eastbound		Westbound		Total Volume
			Left	Thru	Right	Left	Thru	Thru	Right	
7	Utica Avenue at North Bound I-5 Ramps	Final Base	1	8	4	9	22	3	23	70
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0
		Future Total	**2**	**12**	**6**	**14**	**33**	**5**	**35**	**107**

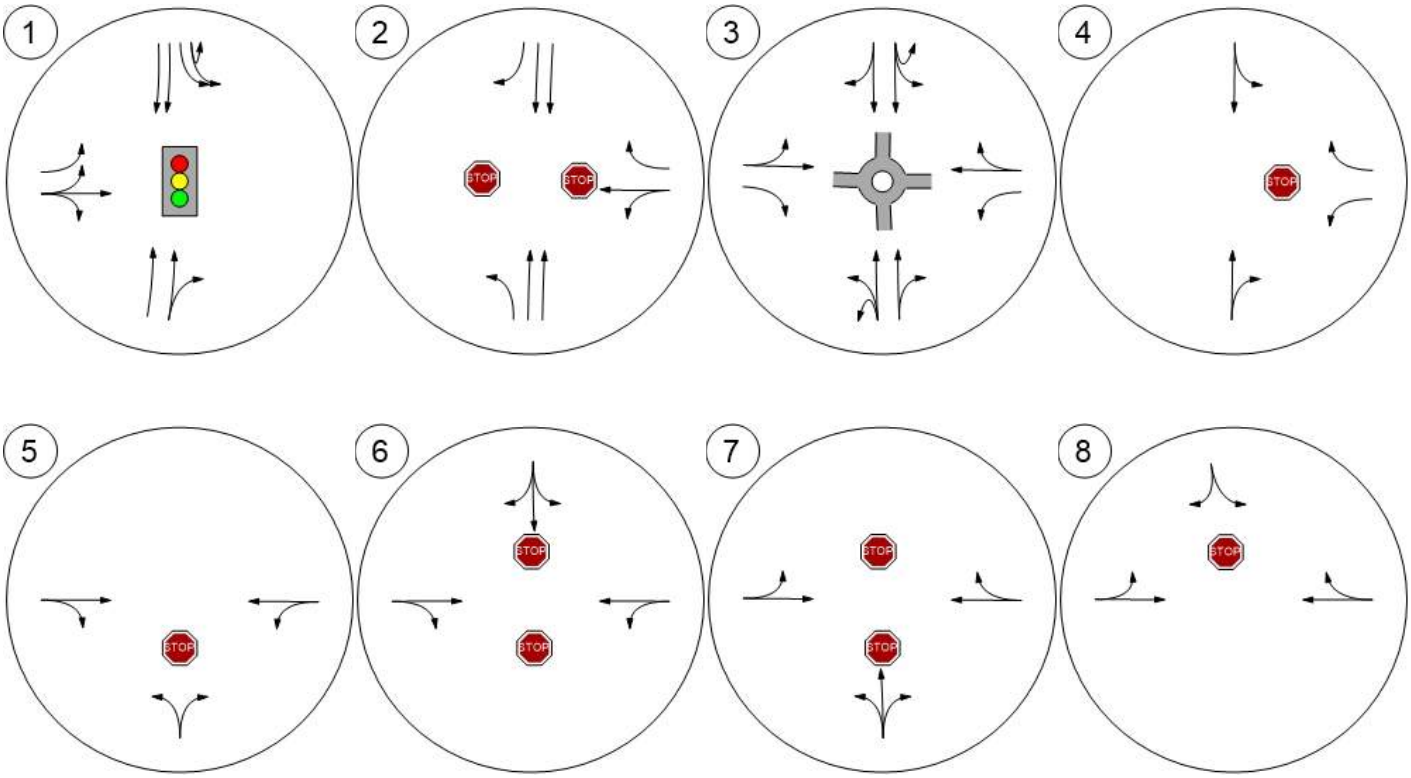
ID	Intersection Name	Volume Type	Southbound		Eastbound		Westbound		Total Volume
			Left	Right	Left	Thru	Thru	Right	
8	Utica Avenue at Frontage Road	Final Base	0	0	0	23	24	0	47
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	**0**	**0**	**0**	**35**	**36**	**0**	**71**

Study Intersections



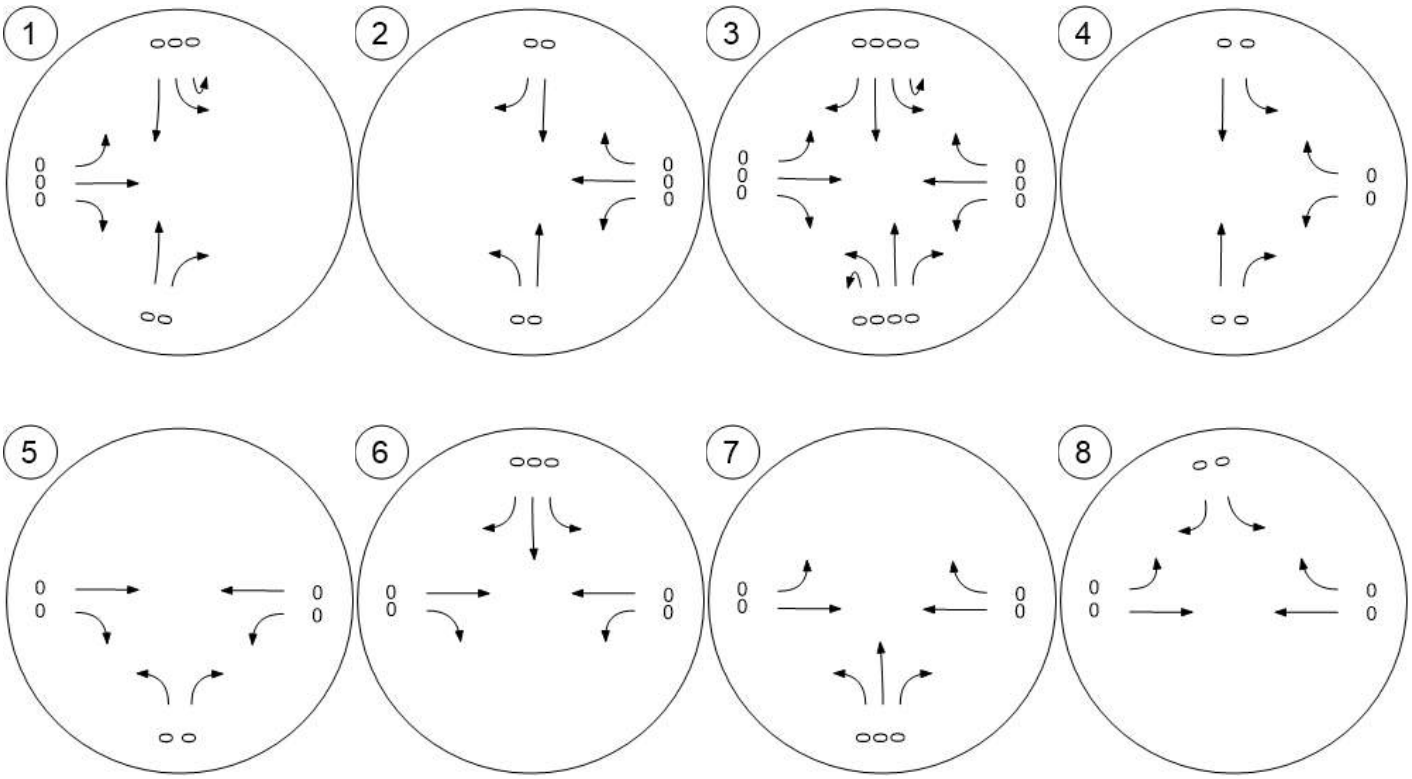
Lane Configuration and Traffic Control





Traffic Volume - Net New Site Trips





Traffic Volume - Future Total Volume



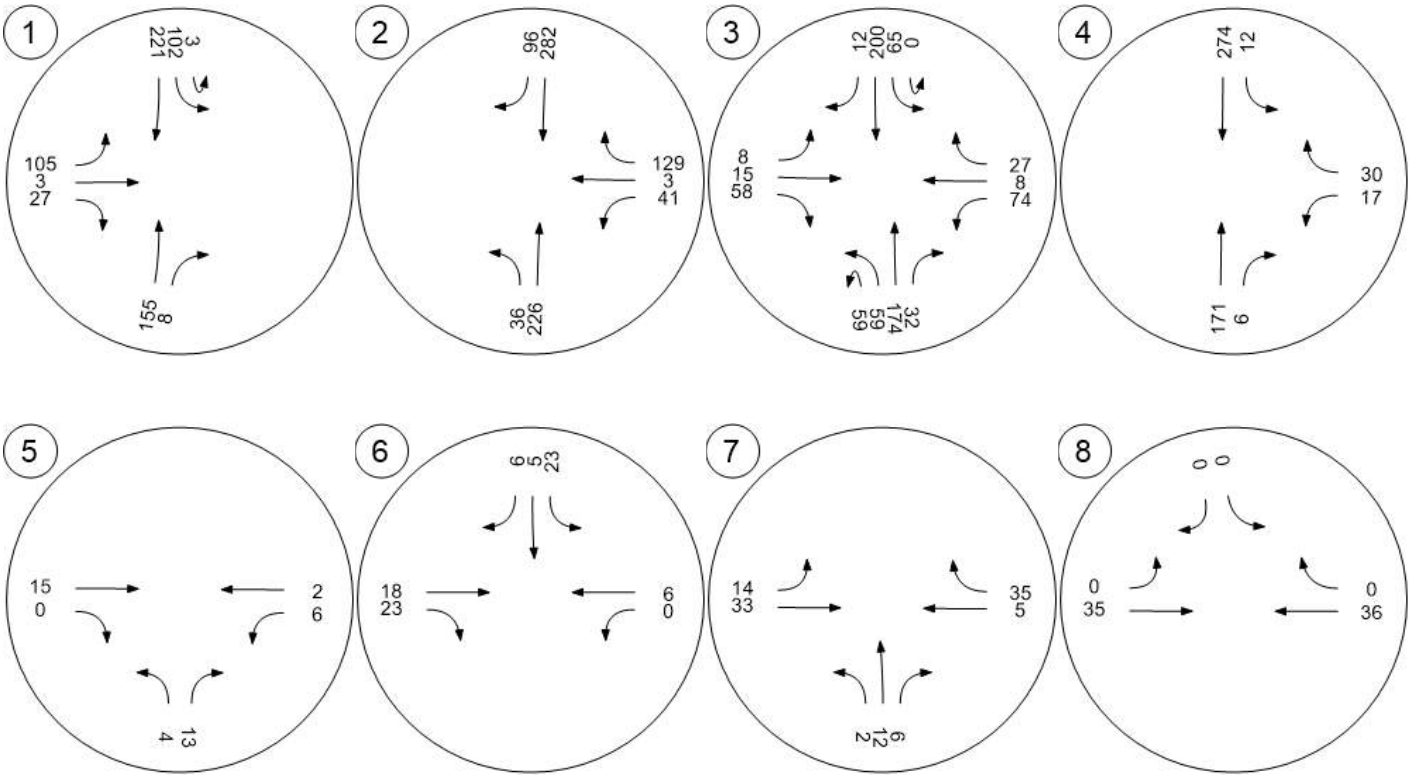


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Report File: H:\...\2040 NP PM.pdf
Scenario 15 BO_NP_PM
4/15/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	South Bound I-5 at SR-41 Ramps	Signalized	HCM 6th Edition	SB U-T	0.274	16.1	B
2	North Bound I-5 at SR-41 Ramps	Two-way stop	HCM 6th Edition	WB Left	0.013	13.2	B
3	Bernard Drive at SR-41	Roundabout	HCM 6th Edition	WB Left		5.5	A
4	25th Avenue at SR-41	Two-way stop	HCM 6th Edition	WB Left	0.008	14.9	B
5	Utica Avenue at South Bound 25th Street	Two-way stop	HCM 6th Edition	NB Left	0.009	8.9	A
6	Utica Avenue at South Bound I-5 Ramps	Two-way stop	HCM 6th Edition	SB Thru	0.006	9.5	A
7	Utica Avenue at North Bound I-5 Ramps	Two-way stop	HCM 6th Edition	NB Thru	0.008	9.9	A
8	Utica Avenue at Frontage Road	Two-way stop	HCM 6th Edition	SB Left	0.002	8.9	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: South Bound I-5 at SR-41 Ramps

Control Type:	Signalized	Delay (sec / veh):	16.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.274

Intersection Setup

Name													
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.	100.	100.	100.	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No					
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name													
Base Volume Input [veh/h]	0	198	17	1	86	161	0	72	8	32	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	13.00	13.00	13.0	13.0	13.0	2.00	13.00	13.00	13.00	2.00	2.00	2.00
Growth Factor	1.0000	1.5160	1.5160	1.51	1.51	1.51	1.00	1.5160	1.5160	1.5160	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	300	26	2	130	244	0	109	12	49	0	0	0
Peak Hour Factor	1.0000	0.9500	0.9500	0.95	0.95	0.95	1.00	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	79	7	1	34	64	0	29	3	13	0	0	0
Total Analysis Volume [veh/h]	0	316	27	2	137	257	0	115	13	52	0	0	0
Presence of On-Street Parking	No		No	No			No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree		0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [		0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor stree		0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [		0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0		
Bicycle Volume [bicycles/h]		0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permis	Permis	Permis	Perm	Prote	Perm	Perm	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	0	2	0	0	1	6	0	0	4	0	0	0	0
Auxiliary Signal Groups													
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	21	0	0	12	33	0	0	27	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	6	0	0	0	6	0	0	18	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No			No	No			No				
Maximum Recall		No			No	No			No				
Pedestrian Recall		No			No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	L	C	L	C	
C, Cycle Length [s]	60	60	60	60	60	60	60	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	35	35	8	8	46	6	6	
g / C, Green / Cycle	0.58	0.58	0.13	0.13	0.77	0.10	0.10	
(v / s)_i Volume / Saturation Flow Rate	0.11	0.11	0.10	0.09	0.09	0.06	0.06	
s, saturation flow rate [veh/h]	1534	1493	1461	1461	2921	1461	1373	
c, Capacity [veh/h]	883	860	185	185	2246	144	135	
d1, Uniform Delay [s]	6.10	6.12	25.37	25.33	1.76	26.10	26.14	
k, delay calibration	0.50	0.50	0.11	0.11	0.50	0.11	0.11	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.49	0.52	6.05	5.74	0.10	4.66	5.27	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.19	0.20	0.75	0.74	0.11	0.64	0.65	
d, Delay for Lane Group [s/veh]	6.59	6.64	31.41	31.07	1.87	30.75	31.41	
Lane Group LOS	A	A	C	C	A	C	C	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	0.93	0.93	2.11	2.06	0.17	1.38	1.35	
50th-Percentile Queue Length [ft/ln]	23.14	23.31	52.73	51.62	4.20	34.45	33.66	
95th-Percentile Queue Length [veh/ln]	1.67	1.68	3.80	3.72	0.30	2.48	2.42	
95th-Percentile Queue Length [ft/ln]	41.65	41.97	94.91	92.91	7.56	62.01	60.59	

Movement, Approach, & Intersection Results

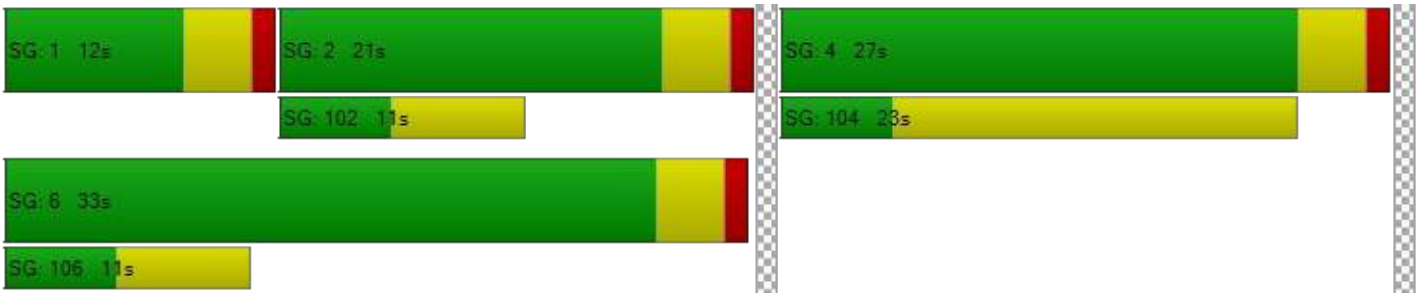
d_M, Delay for Movement [s/veh]	0.00	6.61	6.64	31.4	31.2	1.87	0.00	30.89	31.41	31.41	0.00	0.00	0.00
Movement LOS		A	A	C	C	A		C	C	C			
d_A, Approach Delay [s/veh]	6.61			17.08				31.07			0.00		
Approach LOS	A			B				C			A		
d_I, Intersection Delay [s/veh]	16.06												
Intersection LOS	B												
Intersection V/C	0.274												

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	21.68
l_p,int, Pedestrian LOS Score for Intersection	2.271	2.568	1.979	1.782
Crosswalk LOS	B	B	A	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	567	967	767	0
d_b, Bicycle Delay [s]	15.41	8.01	11.41	30.00
l_b,int, Bicycle LOS Score for Intersection	1.843	1.773	1.857	4.132
Bicycle LOS	A	A	A	D

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: North Bound I-5 at SR-41 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	13.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	25	246	0	0	244	97	0	0	0	4	0	102
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	13.00	13.00	13.00	13.00	13.00	13.00	2.00	2.00	2.00	13.00	13.00	13.00
Growth Factor	1.5160	1.5160	1.5160	1.5160	1.5160	1.5160	1.0000	1.0000	1.0000	1.5160	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	38	373	0	0	370	147	0	0	0	6	0	155
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	98	0	0	97	39	0	0	0	2	0	41
Total Analysis Volume [veh/h]	40	393	0	0	389	155	0	0	0	6	0	163
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				Yes
Number of Storage Spaces in Median	0	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.21
d_M, Delay for Movement [s/veh]	8.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.19	14.92	10.84
Movement LOS	A	A			A	A				B	B	B
95th-Percentile Queue Length [veh/ln]	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.79
95th-Percentile Queue Length [ft/ln]	3.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.02	1.02	19.66
d_A, Approach Delay [s/veh]	0.83			0.00			0.00			10.93		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	1.92											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 3: Bernard Drive at SR-41

Control Type:	Roundabout	Delay (sec / veh):	5.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name														
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	1	1	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.2	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Crosswalk	No				Yes				No			No		

Volumes

Name														
Base Volume Input [veh/h]	63	27	214	26	0	40	158	8	8	10	36	80	6	29
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.00	13.00	13.00	13.00	13.00	13.00
Growth Factor	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.5160	1.5160	1.5160	1.5160	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	96	41	324	39	0	61	240	12	12	15	55	121	9	44
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	11	85	10	0	16	63	3	3	4	14	32	2	12
Total Analysis Volume [veh/h]	101	43	341	41	0	64	253	13	13	16	58	127	9	46
Pedestrian Volume [ped/h]	0				0				0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1				1				1			1		
Circulating Flow Rate [veh/h]	105				316				616			563		
Exiting Flow Rate [veh/h]	609				452				73			137		
Demand Flow Rate [veh/h]	96	41	324	39	0	61	240	12	12	15	55	121	9	44
Adjusted Demand Flow Rate [veh/h]	101	43	341	41	0	64	253	13	13	16	58	127	9	46

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00091	0.00091	0.00091	0.00091	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Entry Flow Rate [veh/h]	280	316	176	198	33	66	144	63
Capacity of Entry and Bypass Lanes [veh/h]	1291	1291	1065	1065	811	811	851	851
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1143	1143	943	943	718	718	754	754
X, volume / capacity	0.22	0.24	0.16	0.19	0.04	0.08	0.17	0.07

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.82	0.96	0.59	0.68	0.13	0.26	0.60	0.24
95th-Percentile Queue Length [ft]	20.57	24.01	14.69	16.97	3.15	6.57	15.10	5.89
Approach Delay [s/veh]	5.25		5.51		5.72		6.27	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	5.53							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 4: 25th Avenue at SR-41

Control Type:	Two-way stop	Delay (sec / veh):	14.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	242	1	13	188	2	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	13.00	13.00	13.00	13.00	13.00	13.00
Growth Factor	1.5160	1.5160	1.5160	1.5160	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	367	2	20	285	3	20
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	97	1	5	75	1	5
Total Analysis Volume [veh/h]	386	2	21	300	3	21
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.02	0.00	0.01	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	8.30	0.00	14.93	10.84
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.06	0.06	0.02	0.10
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.44	1.44	0.62	2.55
d_A, Approach Delay [s/veh]	0.00		0.54		11.35	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.61					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Utica Avenue at South Bound 25th Street

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	6	14	5	2	4	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	13.00	13.00	13.00	13.00	13.00	13.00
Growth Factor	1.5160	1.5160	1.5160	1.5160	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	21	8	3	6	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	6	2	1	2	1
Total Analysis Volume [veh/h]	9	22	8	3	6	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.02	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.86	8.57	0.00	0.00	7.35	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.09	0.09	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	2.36	2.36	0.00	0.00	0.29	0.29
d_A, Approach Delay [s/veh]	8.65		0.00		5.51	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	6.25					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Utica Avenue at South Bound I-5 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	21	3	2	0	19	1	0	3	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	13.00	13.00	13.00	2.00	13.00	13.00	13.00	13.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.5160	1.5160	1.5160	1.0000	1.5160	1.5160	1.5160	1.5160	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	32	5	3	0	29	2	0	5	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	8	1	1	0	8	1	0	1	0
Total Analysis Volume [veh/h]	0	0	0	34	5	3	0	31	2	0	5	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop			Stop			Free			Free		
Flared Lane				No								
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance				No								
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	9.01	9.50	8.62	0.00	0.00	0.00	7.38	0.00	0.00
Movement LOS				A	A	A		A	A	A	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.14	0.14	0.14	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	3.53	3.53	3.53	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			9.04			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	4.74											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 7: Utica Avenue at North Bound I-5 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	1	4	2	0	0	0	10	31	0	0	2	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	13.00	13.00	13.00	2.00	2.00	2.00	13.00	13.00	2.00	2.00	13.00	13.00
Growth Factor	1.5160	1.5160	1.5160	1.0000	1.0000	1.0000	1.5160	1.5160	1.0000	1.0000	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	6	3	0	0	0	15	47	0	0	3	26
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	1	0	0	0	4	12	0	0	1	7
Total Analysis Volume [veh/h]	2	6	3	0	0	0	16	49	0	0	3	27
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No			
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.30	9.85	8.70	0.00	0.00	0.00	7.40	0.00	0.00	0.00	0.00	0.00
Movement LOS	A	A	A				A	A			A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.04	0.00	0.00	0.00	0.03	0.03	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.02	1.02	1.02	0.00	0.00	0.00	0.80	0.80	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.44			0.00			1.82			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.10											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 8: Utica Avenue at Frontage Road

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	2	0	2	31	18	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	13.00	13.00	13.00	13.00	13.00	13.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	0	2	31	18	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	1	8	5	0
Total Analysis Volume [veh/h]	2	0	2	33	19	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.91	8.51	7.36	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.16	0.16	0.10	0.10	0.00	0.00
d_A, Approach Delay [s/veh]	8.91		0.42		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.58					
Intersection LOS	A					

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Scenario 15 BO_NP_PM
4/15/2020

Turning Movement Volume: Summary

ID	Intersection Name	Northbound		Southbound			Eastbound			Total Volume
		Thru	Right	U-T	Left	Thru	Left	Thru	Right	
1	South Bound I-5 at SR-41 Ramps	300	26	2	130	244	109	12	49	872

ID	Intersection Name	Northbound		Southbound		Westbound			Total Volume
		Left	Thru	Thru	Right	Left	Thru	Right	
2	North Bound I-5 at SR-41 Ramps	38	373	370	147	6	0	155	1089

ID	Intersection Name	Northbound				Southbound				Eastbound			Westbound		
		U-T	Left	Thru	Right	U-T	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3	Bernard Drive at SR-41	96	41	324	39	0	61	240	12	12	15	55	121	9	44

Total Volume
1069

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
4	25th Avenue at SR-41	367	2	20	285	3	20	697

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
5	Utica Avenue at South Bound 25th Street	9	21	8	3	6	2	49

ID	Intersection Name	Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Thru	Right	Left	Thru	
6	Utica Avenue at South Bound I-5 Ramps	32	5	3	29	2	0	5	76

ID	Intersection Name	Northbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Thru	Right	
7	Utica Avenue at North Bound I-5 Ramps	2	6	3	15	47	3	26	102

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
8	Utica Avenue at Frontage Road	2	0	2	31	18	0	53

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Scenario 15 BO_NP_PM
4/15/2020

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound		Southbound			Eastbound			Total Volume
			Thru	Right	U-T	Left	Thru	Left	Thru	Right	
1	South Bound I-5 at SR-41 Ramps	Final Base	198	17	1	86	161	72	8	32	575
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0
		Future Total	**300**	**26**	**2**	**130**	**244**	**109**	**12**	**49**	**872**

ID	Intersection Name	Volume Type	Northbound		Southbound		Westbound			Total Volume
			Left	Thru	Thru	Right	Left	Thru	Right	
2	North Bound I-5 at SR-41 Ramps	Final Base	25	246	244	97	4	0	102	718
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0
		Future Total	**38**	**373**	**370**	**147**	**6**	**0**	**155**	**1089**

ID	Intersection Name	Volume Type	Northbound				Southbound				Eastbound			Westbound			Total Volume
			U-T	Left	Thru	Right	U-T	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Bernard Drive at SR-41	Final Base	63	27	214	26	0	40	158	8	8	10	36	80	6	29	705
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**96**	**41**	**324**	**39**	**0**	**61**	**240**	**12**	**12**	**15**	**55**	**121**	**9**	**44**	**1069**

ID	Intersection Name	Volume Type	Northbound		Southbound		Westbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
4	25th Avenue at SR-41	Final Base	242	1	13	188	2	13	459
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	**367**	**2**	**20**	**285**	**3**	**20**	**697**

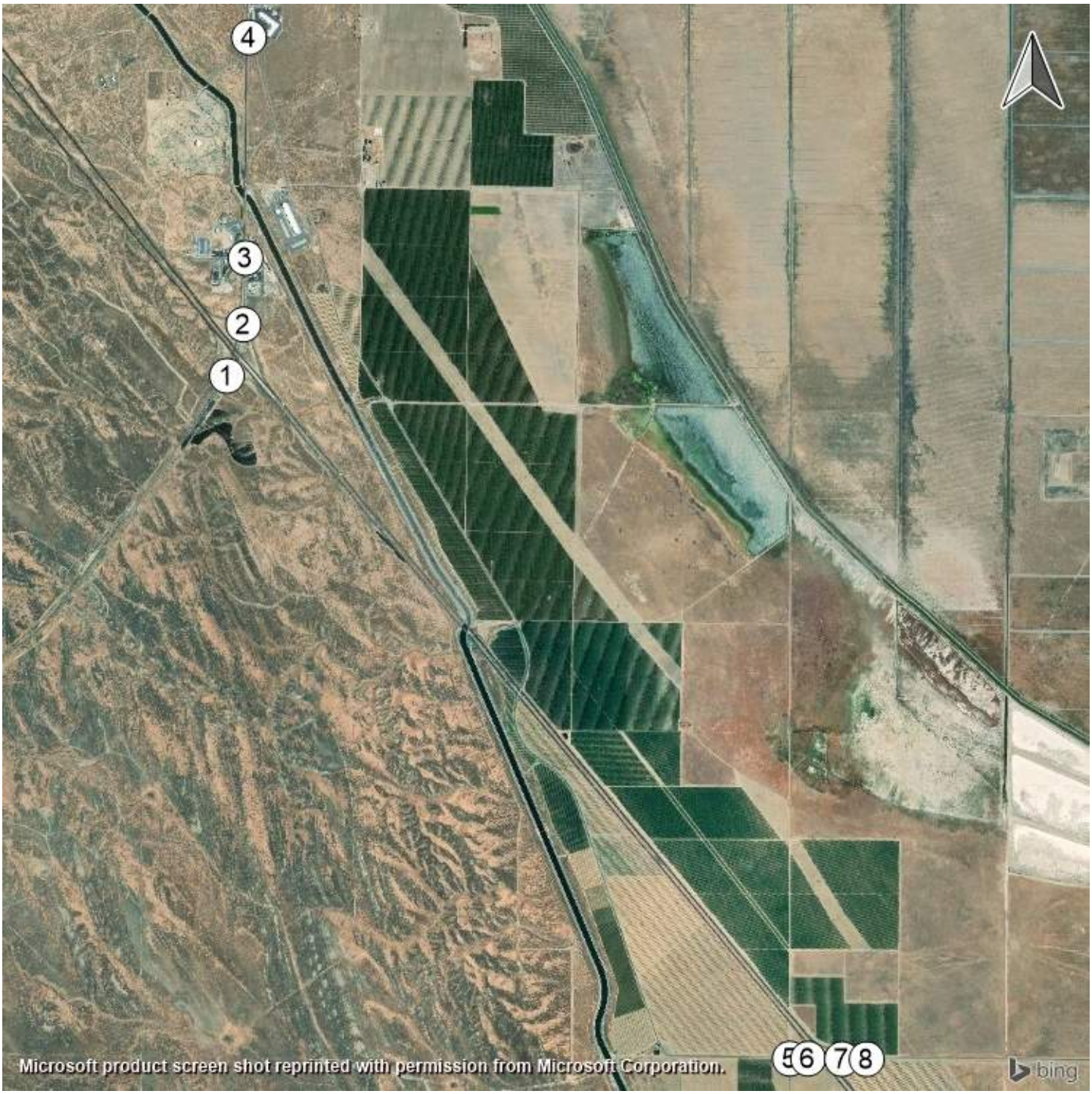
ID	Intersection Name	Volume Type	Northbound		Eastbound		Westbound		Total Volume
			Left	Right	Thru	Right	Left	Thru	
5	Utica Avenue at South Bound 25th Street	Final Base	6	14	5	2	4	1	32
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	**9**	**21**	**8**	**3**	**6**	**2**	**49**

ID	Intersection Name	Volume Type	Southbound			Eastbound		Westbound		Total Volume
			Left	Thru	Right	Thru	Right	Left	Thru	
6	Utica Avenue at South Bound I-5 Ramps	Final Base	21	3	2	19	1	0	3	49
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0
		Future Total	**32**	**5**	**3**	**29**	**2**	**0**	**5**	**76**

ID	Intersection Name	Volume Type	Northbound			Eastbound		Westbound		Total Volume
			Left	Thru	Right	Left	Thru	Thru	Right	
7	Utica Avenue at North Bound I-5 Ramps	Final Base	1	4	2	10	31	2	17	67
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0
		Future Total	**2**	**6**	**3**	**15**	**47**	**3**	**26**	**102**

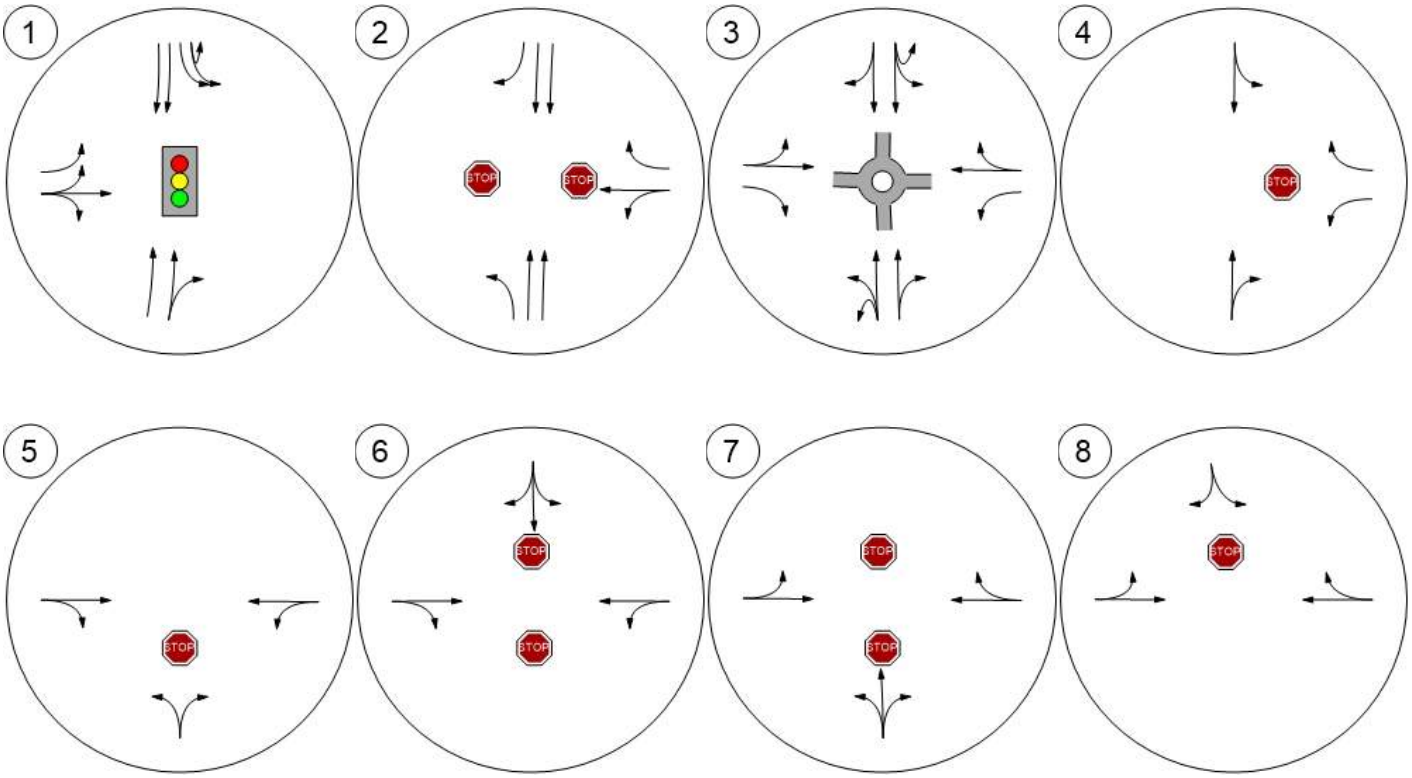
ID	Intersection Name	Volume Type	Southbound		Eastbound		Westbound		Total Volume
			Left	Right	Left	Thru	Thru	Right	
8	Utica Avenue at Frontage Road	Final Base	2	0	2	31	18	0	53
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	**2**	**0**	**2**	**31**	**18**	**0**	**53**

Study Intersections



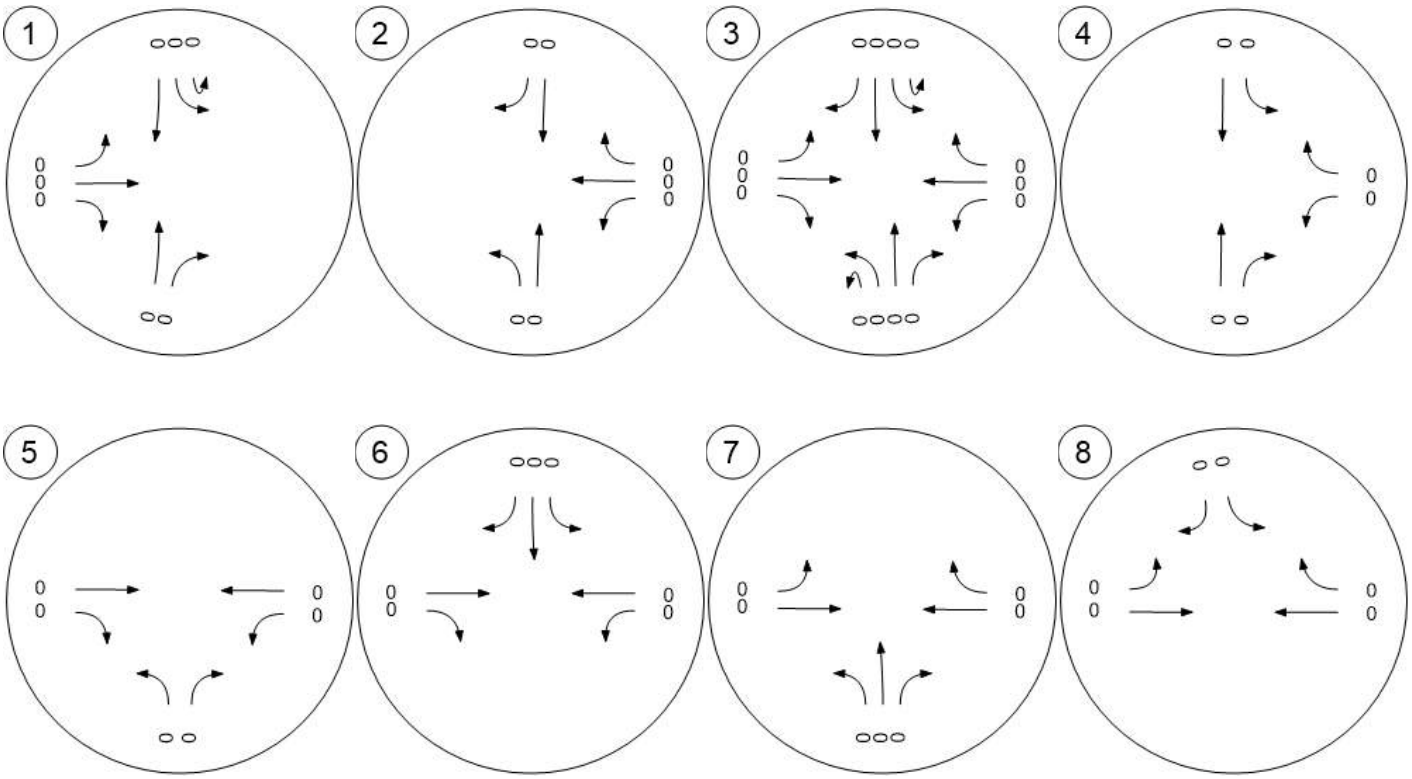
Lane Configuration and Traffic Control





Traffic Volume - Net New Site Trips





Traffic Volume - Future Total Volume



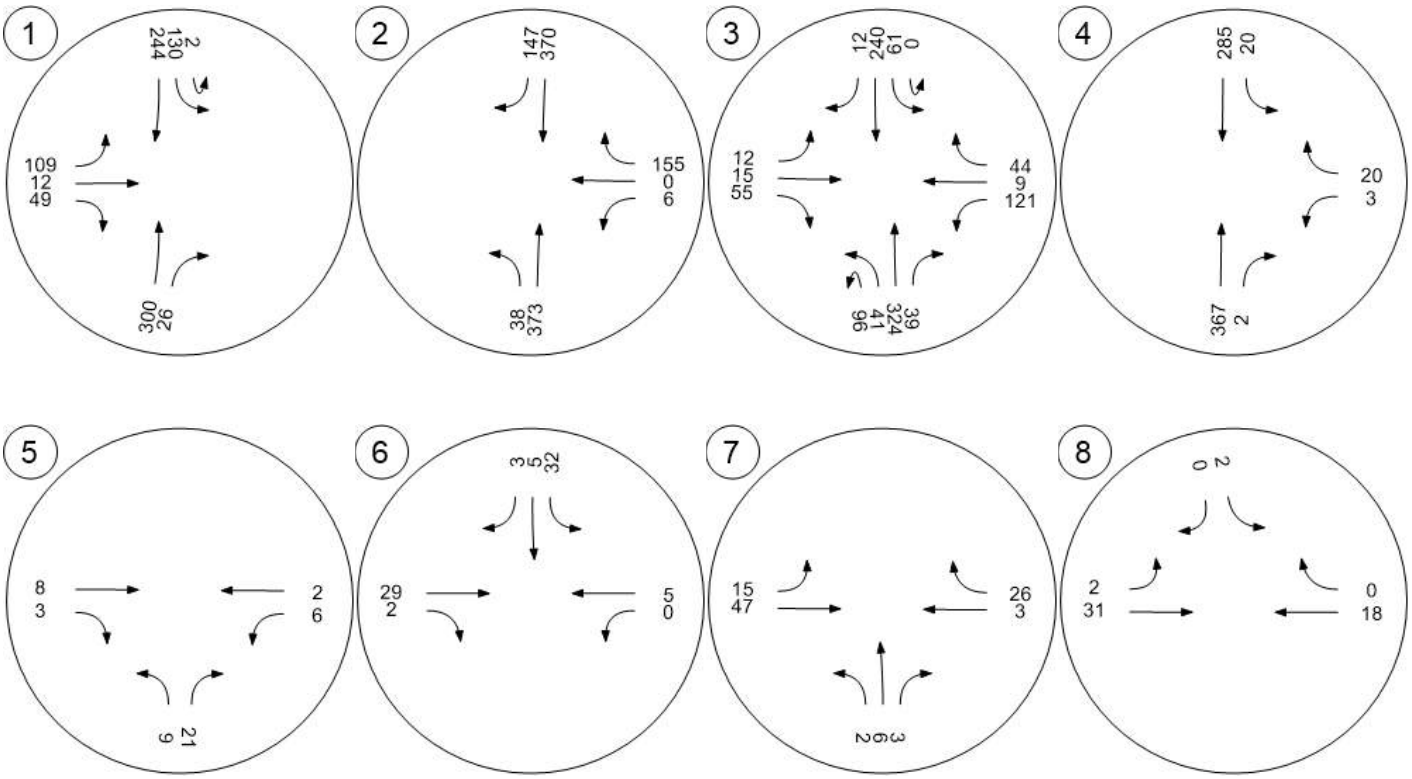


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Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	South Bound I-5 at SR-41 Ramps	Signalized	HCM 6th Edition	SB U-T	0.410	16.9	B
2	North Bound I-5 at SR-41 Ramps	Two-way stop	HCM 6th Edition	WB Thru	0.013	22.5	C
3	Bernard Drive at SR-41	Roundabout	HCM 6th Edition	WB Left		5.9	A
4	25th Avenue at SR-41	Two-way stop	HCM 6th Edition	WB Right	0.121	12.4	B
5	Utica Avenue at South Bound 25th Street	Two-way stop	HCM 6th Edition	NB Left	0.056	9.1	A
6	Utica Avenue at South Bound I-5 Ramps	Two-way stop	HCM 6th Edition	SB Thru	0.012	10.3	B
7	Utica Avenue at North Bound I-5 Ramps	Two-way stop	HCM 6th Edition	NB Thru	0.006	11.8	B
8	Utica Avenue at Frontage Road	Two-way stop	HCM 6th Edition	SB Right	0.003	8.8	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: South Bound I-5 at SR-41 Ramps

Control Type:	Signalized	Delay (sec / veh):	16.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.410

Intersection Setup

Name													
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.	100.	100.	100.	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No					
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name													
Base Volume Input [veh/h]	0	251	38	4	145	294	0	98	7	63	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	11.00	11.00	11.0	11.0	11.0	2.00	11.00	11.00	11.00	2.00	2.00	2.00
Growth Factor	1.0000	1.5160	1.5160	1.51	1.51	1.51	1.00	1.5160	1.5160	1.5160	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	381	58	6	220	446	0	149	11	96	0	0	0
Peak Hour Factor	1.0000	0.9500	0.9500	0.95	0.95	0.95	1.00	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	100	15	2	58	117	0	39	3	25	0	0	0
Total Analysis Volume [veh/h]	0	401	61	6	232	469	0	157	12	101	0	0	0
Presence of On-Street Parking	No		No	No			No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree		0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [		0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor stree		0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [		0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0		
Bicycle Volume [bicycles/h]		0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permis	Permis	Permis	Perm	Prote	Perm	Perm	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	0	2	0	0	1	6	0	0	4	0	0	0	0
Auxiliary Signal Groups													
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	15	0	0	16	31	0	0	29	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	6	0	0	0	6	0	0	18	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No			No	No			No				
Maximum Recall		No			No	No			No				
Pedestrian Recall		No			No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	L	C	L	C	
C, Cycle Length [s]	60	60	60	60	60	60	60	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	29	29	11	11	44	8	8	
g / C, Green / Cycle	0.48	0.48	0.19	0.19	0.73	0.13	0.13	
(v / s)_i Volume / Saturation Flow Rate	0.15	0.15	0.16	0.16	0.16	0.09	0.10	
s, saturation flow rate [veh/h]	1561	1492	1487	1487	2973	1487	1366	
c, Capacity [veh/h]	741	708	282	282	2174	201	185	
d1, Uniform Delay [s]	9.71	9.79	23.45	23.34	2.57	24.75	24.79	
k, delay calibration	0.50	0.50	0.11	0.11	0.50	0.11	0.11	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	1.10	1.22	6.78	5.94	0.23	4.23	4.83	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.31	0.33	0.84	0.82	0.22	0.69	0.70	
d, Delay for Lane Group [s/veh]	10.81	11.02	30.23	29.28	2.80	28.98	29.62	
Lane Group LOS	B	B	C	C	A	C	C	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	1.81	1.84	3.54	3.39	0.51	2.02	1.91	
50th-Percentile Queue Length [ft/ln]	45.27	45.98	88.53	84.63	12.68	50.43	47.79	
95th-Percentile Queue Length [veh/ln]	3.26	3.31	6.37	6.09	0.91	3.63	3.44	
95th-Percentile Queue Length [ft/ln]	81.49	82.76	159.35	152.33	22.83	90.77	86.01	

Movement, Approach, & Intersection Results

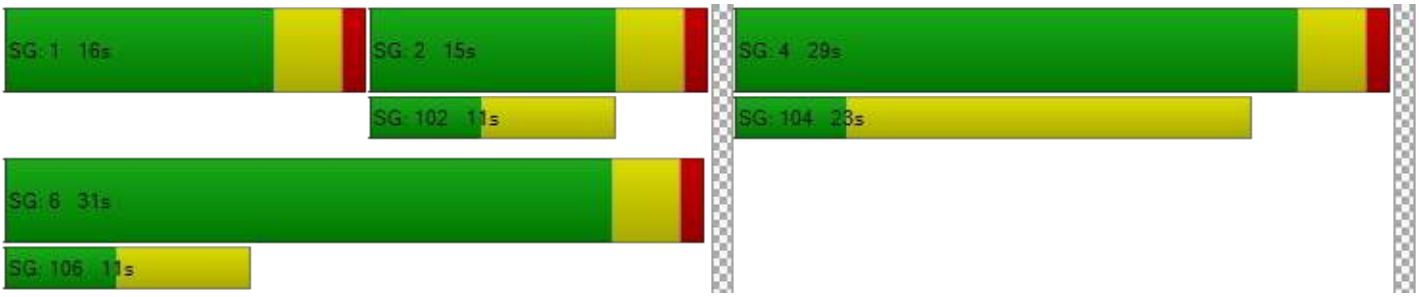
d_M, Delay for Movement [s/veh]	0.00	10.90	11.02	30.2	29.7	2.80	0.00	29.06	29.62	29.62	0.00	0.00	0.00
Movement LOS		B	B	C	C	A		C	C	C			
d_A, Approach Delay [s/veh]	10.91			16.30				29.29			0.00		
Approach LOS	B			B				C			A		
d_I, Intersection Delay [s/veh]	16.91												
Intersection LOS	B												
Intersection V/C	0.410												

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	21.68
l_p,int, Pedestrian LOS Score for Intersection	2.363	2.639	2.009	1.844
Crosswalk LOS	B	B	B	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	367	900	833	0
d_b, Bicycle Delay [s]	20.01	9.08	10.21	30.00
l_b,int, Bicycle LOS Score for Intersection	1.941	1.951	2.005	4.132
Bicycle LOS	A	A	B	D

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: North Bound I-5 at SR-41 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	22.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	47	335	0	0	395	147	0	0	0	20	2	181
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.00	11.00	11.00	11.00	11.00	11.00	2.00	2.00	2.00	11.00	11.00	11.00
Growth Factor	1.5160	1.5160	1.5160	1.5160	1.5160	1.5160	1.0000	1.0000	1.0000	1.5160	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	71	508	0	0	599	223	0	0	0	30	3	274
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	134	0	0	158	59	0	0	0	8	1	72
Total Analysis Volume [veh/h]	75	535	0	0	631	235	0	0	0	32	3	288
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				Yes
Number of Storage Spaces in Median	0	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.10	0.01	0.41
d_M, Delay for Movement [s/veh]	10.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.37	22.54	13.61
Movement LOS	B	A			A	A				C	C	B
95th-Percentile Queue Length [veh/ln]	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.40	2.00
95th-Percentile Queue Length [ft/ln]	8.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.89	9.89	49.99
d_A, Approach Delay [s/veh]	1.30			0.00			0.00			14.16		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	2.98											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: Bernard Drive at SR-41

Control Type:	Roundabout	Delay (sec / veh):	5.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name														
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	1	1	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.2	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Crosswalk	No				Yes				No			No		

Volumes

Name														
Base Volume Input [veh/h]	110	47	270	49	1	71	245	13	7	9	58	153	7	47
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.00	11.00	11.00	11.00	11.00	11.00
Growth Factor	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.0820	1.0820	1.0820	1.0820	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	119	51	292	53	1	77	265	14	8	10	63	166	8	51
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	13	77	14	0	20	70	4	2	3	17	44	2	13
Total Analysis Volume [veh/h]	125	54	307	56	1	81	279	15	8	11	66	175	8	54
Pedestrian Volume [ped/h]	0				0				0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1				1				1			1		
Circulating Flow Rate [veh/h]	112				402				734			549		
Exiting Flow Rate [veh/h]	716				411				85			164		
Demand Flow Rate [veh/h]	119	51	292	53	1	77	265	14	8	10	63	166	8	51
Adjusted Demand Flow Rate [veh/h]	125	54	307	56	1	81	279	15	8	11	66	175	8	54

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00091	0.00091	0.00091	0.00091	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Entry Flow Rate [veh/h]	283	319	197	222	22	74	195	69
Capacity of Entry and Bypass Lanes [veh/h]	1283	1283	986	986	729	729	862	862
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1156	1156	888	888	657	657	776	776
X, volume / capacity	0.22	0.25	0.20	0.22	0.03	0.10	0.23	0.08

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.84	0.98	0.74	0.86	0.09	0.33	0.86	0.26
95th-Percentile Queue Length [ft]	21.06	24.60	18.49	21.50	2.23	8.35	21.59	6.49
Approach Delay [s/veh]	5.25		6.21		6.42		6.68	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	5.90							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 4: 25th Avenue at SR-41

Control Type:	Two-way stop	Delay (sec / veh):	12.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.121

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	311	2	11	314	0	42
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.00	11.00	11.00	11.00	11.00	11.00
Growth Factor	1.5160	1.5160	1.5160	1.5160	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	471	3	17	476	0	64
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	124	1	4	125	0	17
Total Analysis Volume [veh/h]	496	3	18	501	0	67
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.02	0.01	0.00	0.12
d_M, Delay for Movement [s/veh]	0.00	0.00	8.59	0.00	19.93	12.38
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.05	0.05	0.00	0.41
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.35	1.35	0.00	10.23
d_A, Approach Delay [s/veh]	0.00		0.30		12.38	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.91					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Utica Avenue at South Bound 25th Street

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.056

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	33	77	7	4	5	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.00	11.00	11.00	11.00	11.00	11.00
Growth Factor	1.5160	1.5160	1.5160	1.5160	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	117	11	6	8	11
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	31	3	2	2	3
Total Analysis Volume [veh/h]	53	123	12	6	8	12
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.12	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	9.06	8.93	0.00	0.00	7.35	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.18	0.40	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	4.47	10.04	0.00	0.00	0.39	0.39
d_A, Approach Delay [s/veh]	8.97		0.00		2.94	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	7.65					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Utica Avenue at South Bound I-5 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	10.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	21	6	5	0	76	7	1	7	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	11.00	11.00	11.00	2.00	11.00	11.00	11.00	11.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.5160	1.5160	1.5160	1.0000	1.5160	1.5160	1.5160	1.5160	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	32	9	8	0	115	11	2	11	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	8	2	2	0	30	3	1	3	0
Total Analysis Volume [veh/h]	0	0	0	34	9	8	0	121	12	2	12	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop			Stop			Free			Free		
Flared Lane				No								
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance				No								
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.04	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	9.76	10.26	8.74	0.00	0.00	0.00	7.58	0.00	0.00
Movement LOS				A	B	A		A	A	A	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.20	0.20	0.20	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	4.97	4.97	4.97	0.00	0.00	0.00	0.11	0.11	0.00
d_A, Approach Delay [s/veh]	0.00			9.69			0.00			1.08		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	2.57											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 7: Utica Avenue at North Bound I-5 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	11.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	1	2	5	0	0	0	58	38	0	0	10	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.00	11.00	11.00	2.00	2.00	2.00	11.00	11.00	2.00	2.00	11.00	11.00
Growth Factor	1.5160	1.5160	1.5160	1.0000	1.0000	1.0000	1.5160	1.5160	1.0000	1.0000	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	3	8	0	0	0	88	58	0	0	15	65
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	2	0	0	0	23	15	0	0	4	17
Total Analysis Volume [veh/h]	2	3	8	0	0	0	93	61	0	0	16	68
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No			
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.13	11.80	8.76	0.00	0.00	0.00	7.64	0.00	0.00	0.00	0.00	0.00
Movement LOS	B	B	A				A	A			A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.05	0.00	0.00	0.00	0.20	0.20	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.31	1.31	1.31	0.00	0.00	0.00	5.10	5.10	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.82			0.00			4.61			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	3.34											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 8: Utica Avenue at Frontage Road

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	0	2	0	44	54	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.00	11.00	11.00	11.00	11.00	11.00
Growth Factor	1.5160	1.5160	1.5160	1.5160	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	3	0	67	82	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	0	18	22	0
Total Analysis Volume [veh/h]	0	3	0	71	86	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.44	8.81	7.47	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.24	0.24	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.81		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.17					
Intersection LOS	A					

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Report File: H:\...\2040 NP FRI.pdf

Scenario 11 2040_FRI_NP
4/15/2020

Turning Movement Volume: Summary

ID	Intersection Name	Northbound		Southbound			Eastbound			Total Volume
		Thru	Right	U-T	Left	Thru	Left	Thru	Right	
1	South Bound I-5 at SR-41 Ramps	381	58	6	220	446	149	11	96	1367

ID	Intersection Name	Northbound		Southbound		Westbound			Total Volume
		Left	Thru	Thru	Right	Left	Thru	Right	
2	North Bound I-5 at SR-41 Ramps	71	508	599	223	30	3	274	1708

ID	Intersection Name	Northbound				Southbound				Eastbound			Westbound		
		U-T	Left	Thru	Right	U-T	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3	Bernard Drive at SR-41	119	51	292	53	1	77	265	14	8	10	63	166	8	51

Total Volume
1178

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
4	25th Avenue at SR-41	471	3	17	476	0	64	1031

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
5	Utica Avenue at South Bound 25th Street	50	117	11	6	8	11	203

ID	Intersection Name	Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Thru	Right	Left	Thru	
6	Utica Avenue at South Bound I-5 Ramps	32	9	8	115	11	2	11	188

ID	Intersection Name	Northbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Thru	Right	
7	Utica Avenue at North Bound I-5 Ramps	2	3	8	88	58	15	65	239

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
8	Utica Avenue at Frontage Road	0	3	0	67	82	0	152

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Report File: H:\...\2040 NP FRI.pdf
Scenario 11 2040_FRI_NP
4/15/2020

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound		Southbound			Eastbound			Total Volume
			Thru	Right	U-T	Left	Thru	Left	Thru	Right	
1	South Bound I-5 at SR-41 Ramps	Final Base	251	38	4	145	294	98	7	63	900
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0
		Future Total	**381**	**58**	**6**	**220**	**446**	**149**	**11**	**96**	**1367**

ID	Intersection Name	Volume Type	Northbound		Southbound		Westbound			Total Volume
			Left	Thru	Thru	Right	Left	Thru	Right	
2	North Bound I-5 at SR-41 Ramps	Final Base	47	335	395	147	20	2	181	1127
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0
		Future Total	**71**	**508**	**599**	**223**	**30**	**3**	**274**	**1708**

ID	Intersection Name	Volume Type	Northbound				Southbound				Eastbound			Westbound			Total Volume
			U-T	Left	Thru	Right	U-T	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Bernard Drive at SR-41	Final Base	110	47	270	49	1	71	245	13	7	9	58	153	7	47	1087
		Growth Factor	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**119**	**51**	**292**	**53**	**1**	**77**	**265**	**14**	**8**	**10**	**63**	**166**	**8**	**51**	**1178**

ID	Intersection Name	Volume Type	Northbound		Southbound		Westbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
4	25th Avenue at SR-41	Final Base	311	2	11	314	0	42	680
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	**471**	**3**	**17**	**476**	**0**	**64**	**1031**

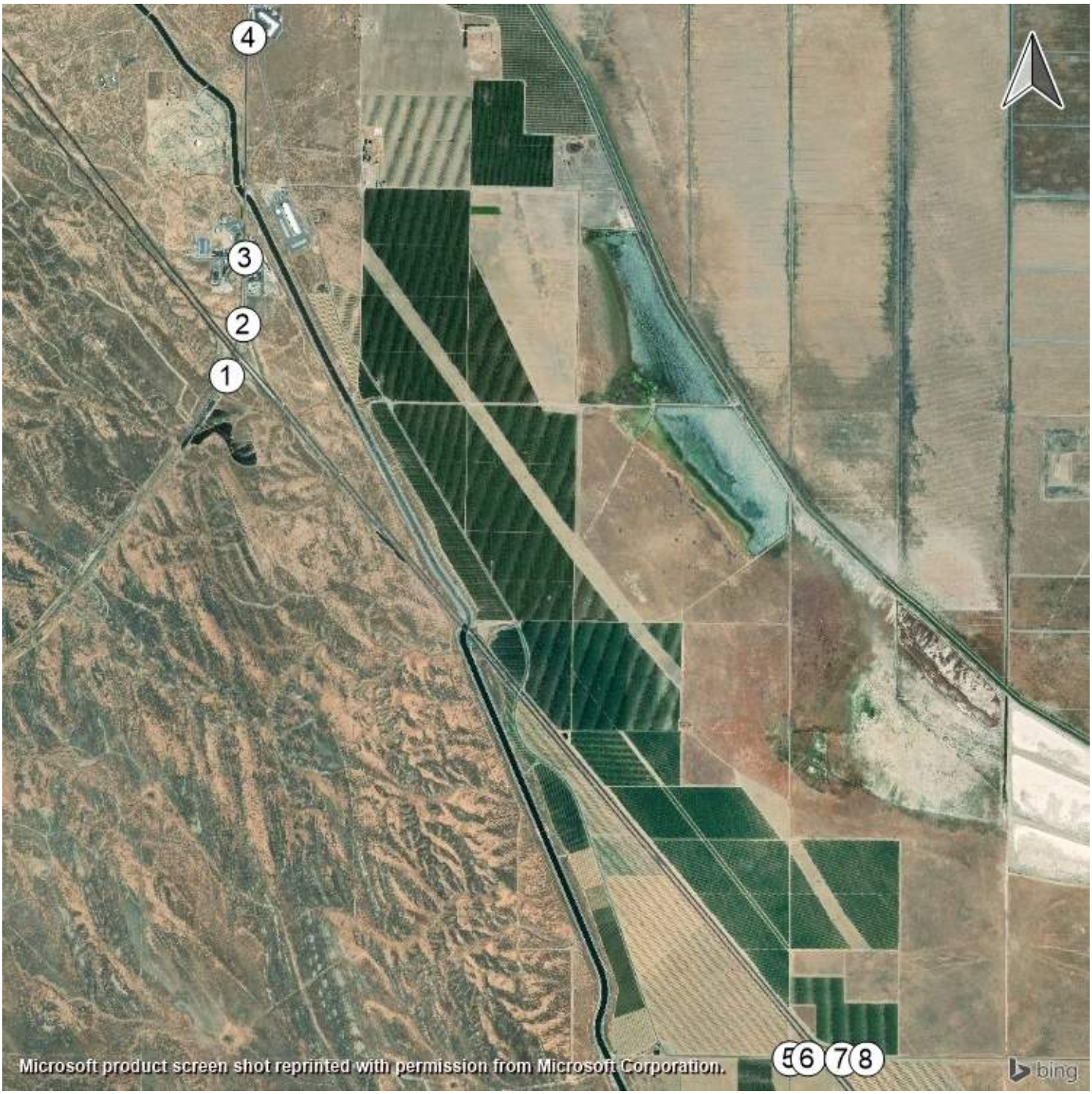
ID	Intersection Name	Volume Type	Northbound		Eastbound		Westbound		Total Volume
			Left	Right	Thru	Right	Left	Thru	
5	Utica Avenue at South Bound 25th Street	Final Base	33	77	7	4	5	7	133
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	**50**	**117**	**11**	**6**	**8**	**11**	**203**

ID	Intersection Name	Volume Type	Southbound			Eastbound		Westbound		Total Volume
			Left	Thru	Right	Thru	Right	Left	Thru	
6	Utica Avenue at South Bound I-5 Ramps	Final Base	21	6	5	76	7	1	7	123
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0
		Future Total	**32**	**9**	**8**	**115**	**11**	**2**	**11**	**188**

ID	Intersection Name	Volume Type	Northbound			Eastbound		Westbound		Total Volume
			Left	Thru	Right	Left	Thru	Thru	Right	
7	Utica Avenue at North Bound I-5 Ramps	Final Base	1	2	5	58	38	10	43	157
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0
		Future Total	**2**	**3**	**8**	**88**	**58**	**15**	**65**	**239**

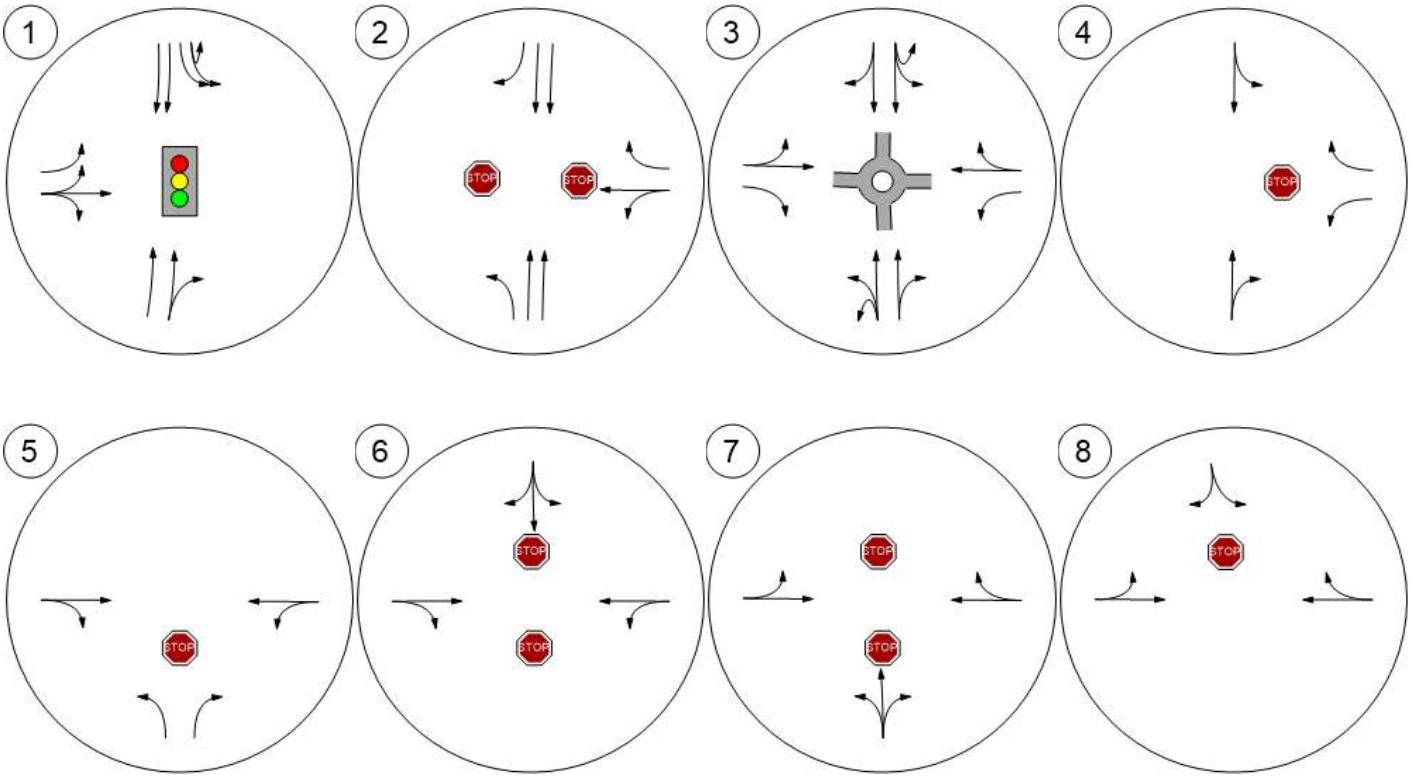
ID	Intersection Name	Volume Type	Southbound		Eastbound		Westbound		Total Volume
			Left	Right	Left	Thru	Thru	Right	
8	Utica Avenue at Frontage Road	Final Base	0	2	0	44	54	0	100
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	**0**	**3**	**0**	**67**	**82**	**0**	**152**

Study Intersections



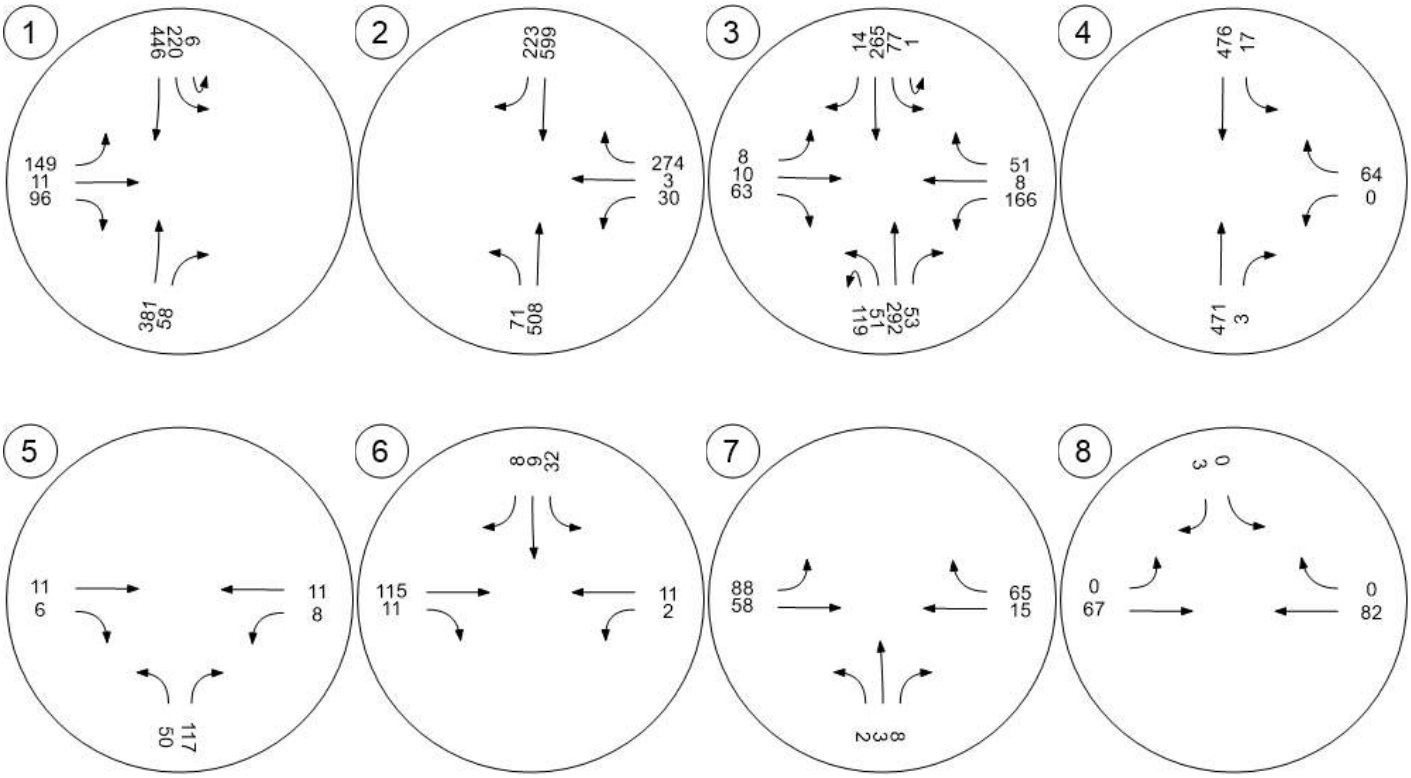
Lane Configuration and Traffic Control





Traffic Volume - Future Total Volume





Intersection Level Of Service Report
Intersection 5: Utica Avenue at South Bound 25th Street

Control Type:	Roundabout	Delay (sec / veh):	13.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	4	12	14	0	6	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	23.00	23.00	23.00	23.00	23.00	23.00
Growth Factor	1.5160	1.5160	1.5160	1.5160	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	465	0	0	793	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	483	21	0	802	3
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	127	6	0	211	1
Total Analysis Volume [veh/h]	6	508	22	0	844	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	27		1038		7	
Exiting Flow Rate [veh/h]	1038		11		652	
Demand Flow Rate [veh/h]	6	483	21	0	802	3
Adjusted Demand Flow Rate [veh/h]	6	508	22	0	844	3

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	0.81	0.81	0.81
Entry Flow Rate [veh/h]	633	28	1042
Capacity of Entry and Bypass Lanes [veh/h]	1343	479	1370
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1092	390	1114
X, volume / capacity	0.47	0.06	0.76

Movement, Approach, & Intersection Results

Lane LOS	A	B	C
95th-Percentile Queue Length [veh]	2.58	0.18	7.74
95th-Percentile Queue Length [ft]	64.46	4.48	193.42
Approach Delay [s/veh]	8.55	10.09	16.48
Approach LOS	A	B	C
Intersection Delay [s/veh]	13.43		
Intersection LOS	B		

Intersection Level Of Service Report
Intersection 6: Utica Avenue at South Bound I-5 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	45.7
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.018

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	15	3	4	0	12	15	0	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	23.00	23.00	23.00	2.00	23.00	23.00	23.00	23.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.5160	1.5160	1.5160	1.0000	1.5160	1.5160	1.5160	1.5160	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	521	0	317	148	0	272	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	23	5	527	0	335	171	0	278	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	6	1	139	0	88	45	0	73	0
Total Analysis Volume [veh/h]	0	0	0	24	5	555	0	353	180	0	293	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane		No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.08	0.02	0.79	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	44.70	45.71	38.22	0.00	0.00	0.00	8.84	0.00	0.00
Movement LOS				E	E	E		A	A	A	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	10.92	10.92	10.92	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	273.07	273.07	273.07	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			38.55			0.00			0.00		
Approach LOS	A			E			A			A		
d_I, Intersection Delay [s/veh]	15.97											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 7: Utica Avenue at North Bound I-5 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	144.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.058

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	1	8	4	0	0	0	9	22	0	0	3	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	23.00	23.00	23.00	2.00	2.00	2.00	23.00	23.00	2.00	2.00	23.00	23.00
Growth Factor	1.5160	1.5160	1.5160	1.0000	1.0000	1.0000	1.5160	1.5160	1.0000	1.0000	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	215	0	0	0	0	0	292	25	0	0	57	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	217	12	6	0	0	0	306	58	0	0	62	35
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	3	2	0	0	0	81	15	0	0	16	9
Total Analysis Volume [veh/h]	228	13	6	0	0	0	322	61	0	0	65	37
Pedestrian Volume [ped/h]	0			0			0			0		

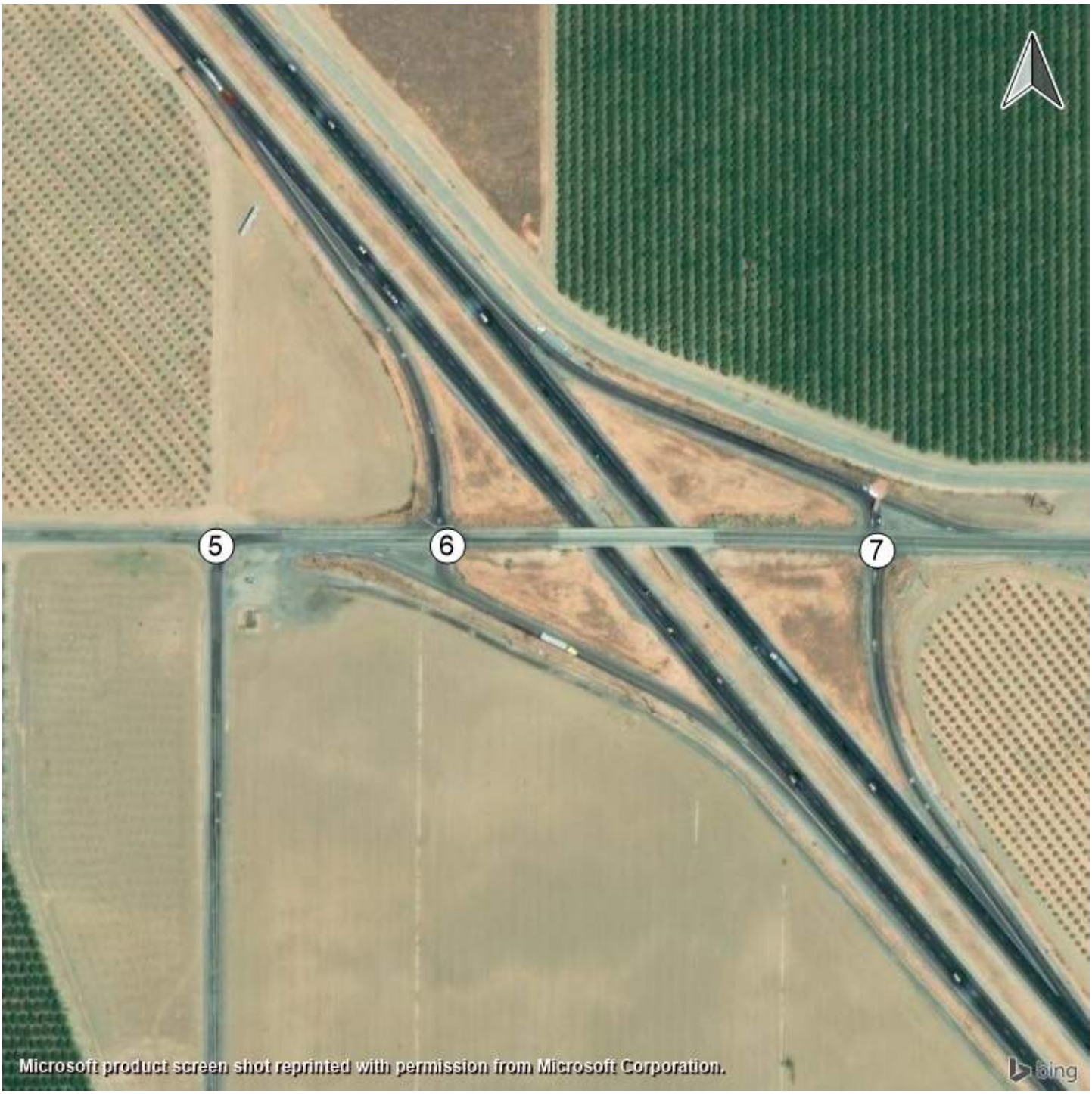
Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No			
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

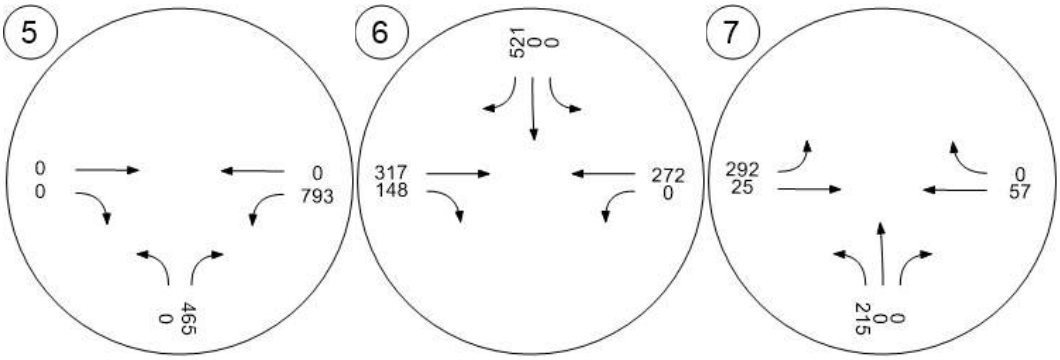
V/C, Movement V/C Ratio	1.06	0.06	0.01	0.00	0.00	0.00	0.24	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	144.65	144.22	131.74	0.00	0.00	0.00	8.44	0.00	0.00	0.00	0.00	0.00
Movement LOS	F	F	F				A	A			A	A
95th-Percentile Queue Length [veh/ln]	11.47	11.47	11.47	0.00	0.00	0.00	0.92	0.92	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	286.76	286.76	286.76	0.00	0.00	0.00	22.91	22.91	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	144.32			0.00			7.09			0.00		
Approach LOS	F			A			A			A		
d_I, Intersection Delay [s/veh]	52.41											
Intersection LOS	F											

Study Intersections



Traffic Volume - Net New Site Trips





Traffic Volume - Future Total Volume



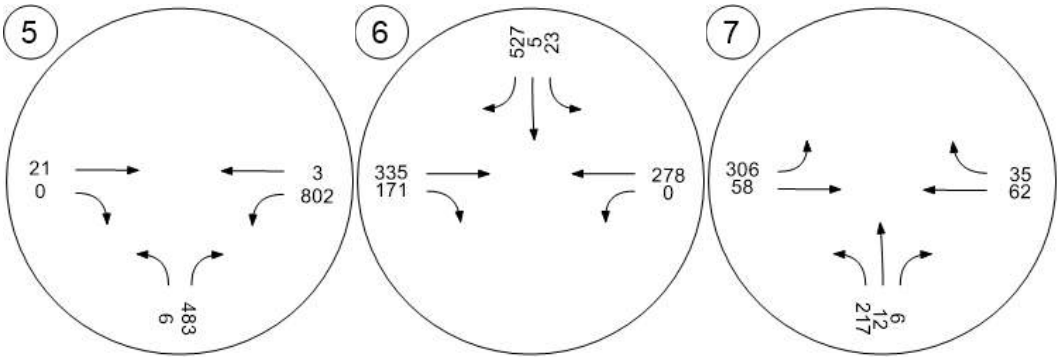


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Report File: H:\...\2040_AM_area.pdf
Scenario 26 BO_AM_area
4/15/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	South Bound I-5 at SR-41 Ramps	Signalized	HCM 6th Edition	SB U-T	0.363	82.8	F
2	North Bound I-5 at SR-41 Ramps	Two-way stop	HCM 6th Edition	WB Thru	0.008	16.1	C
3	Bernard Drive at SR-41	Roundabout	HCM 6th Edition	EB Right		6.1	A
4	25th Avenue at SR-41	Two-way stop	HCM 6th Edition	WB Left	0.052	16.1	C
8	Utica Avenue at Frontage Road	Two-way stop	HCM 6th Edition	WB Thru	0.001	0.0	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: South Bound I-5 at SR-41 Ramps

Control Type:	Signalized	Delay (sec / veh):	82.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.363

Intersection Setup

Name													
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.	100.	100.	100.	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No					
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name													
Base Volume Input [veh/h]	0	102	5	2	67	146	0	69	2	18	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	23.00	23.00	23.0	23.0	23.0	2.00	23.00	23.00	23.00	2.00	2.00	2.00
Growth Factor	1.0000	1.5160	1.5160	1.51	1.51	1.51	1.00	1.5160	1.5160	1.5160	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	57	0	170	25	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	155	65	3	272	246	0	105	3	27	0	0	0
Peak Hour Factor	1.0000	0.9500	0.9500	0.95	0.95	0.95	1.00	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	41	17	1	72	65	0	28	1	7	0	0	0
Total Analysis Volume [veh/h]	0	163	68	3	286	259	0	111	3	28	0	0	0
Presence of On-Street Parking	No		No	No			No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree		0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [		0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor stree		0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [		0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0		
Bicycle Volume [bicycles/h]		0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permis	Permis	Permis	Perm	Prote	Perm	Perm	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	0	2	0	0	1	6	0	0	4	0	0	0	0
Auxiliary Signal Groups													
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	19	0	0	14	33	0	0	27	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	6	0	0	0	6	0	0	18	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No			No	No			No				
Maximum Recall		No			No	No			No				
Pedestrian Recall		No			No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	L	C	L	C	
C, Cycle Length [s]	60	60	60	60	60	60	60	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	33	33	10	10	47	5	5	
g / C, Green / Cycle	0.55	0.55	0.17	0.17	0.78	0.08	0.08	
(v / s)_i Volume / Saturation Flow Rate	0.08	0.09	0.22	0.21	0.10	0.05	0.06	
s, saturation flow rate [veh/h]	1399	1268	1333	1333	2664	1333	1274	
c, Capacity [veh/h]	767	695	223	223	2084	113	108	
d1, Uniform Delay [s]	6.69	6.76	25.04	25.04	1.58	26.63	26.66	
k, delay calibration	0.50	0.50	0.11	0.11	0.50	0.11	0.11	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.42	0.52	139.83	134.02	0.12	5.78	6.40	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.15	0.17	1.29	1.28	0.12	0.64	0.65	
d, Delay for Lane Group [s/veh]	7.11	7.27	164.87	159.06	1.70	32.41	33.06	
Lane Group LOS	A	A	F	F	A	C	C	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	0.67	0.69	11.62	11.26	0.14	1.12	1.11	
50th-Percentile Queue Length [ft/ln]	16.81	17.22	290.62	281.61	3.53	28.09	27.84	
95th-Percentile Queue Length [veh/ln]	1.21	1.24	19.15	18.58	0.25	2.02	2.00	
95th-Percentile Queue Length [ft/ln]	30.26	31.00	478.85	464.56	6.36	50.56	50.10	

Movement, Approach, & Intersection Results

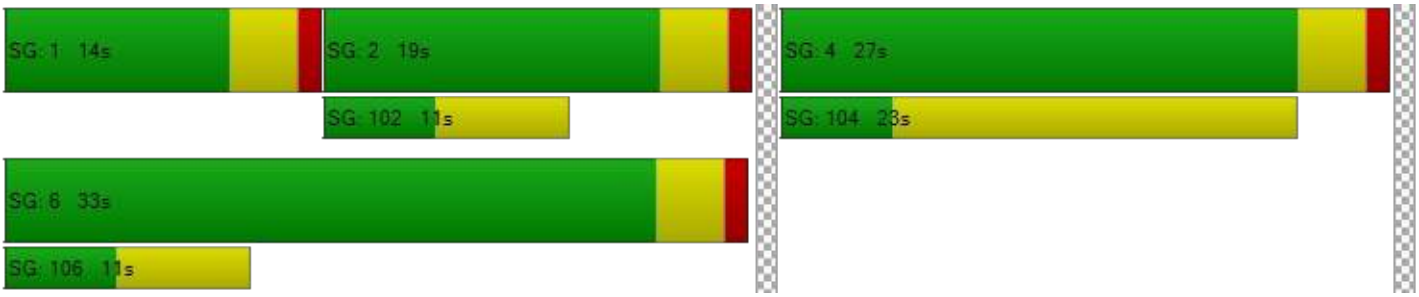
d_M, Delay for Movement [s/veh]	0.00	7.16	7.27	164.	161.	1.70	0.00	32.64	33.06	33.06	0.00	0.00	0.00
Movement LOS		A	A	F	F	A		C	C	C			
d_A, Approach Delay [s/veh]	7.19			112.21				32.73			0.00		
Approach LOS	A			F				C			A		
d_I, Intersection Delay [s/veh]	82.76												
Intersection LOS	F												
Intersection V/C	0.363												

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	21.68
l_p,int, Pedestrian LOS Score for Intersection	2.238	2.567	1.967	1.870
Crosswalk LOS	B	B	A	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	500	967	767	0
d_b, Bicycle Delay [s]	16.88	8.01	11.41	30.00
l_b,int, Bicycle LOS Score for Intersection	1.750	1.776	1.794	4.132
Bicycle LOS	A	A	A	D

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: North Bound I-5 at SR-41 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	16.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	24	149	0	0	186	63	0	0	0	27	2	85
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	23.00	23.00	23.00	23.00	23.00	23.00	2.00	2.00	2.00	23.00	23.00	23.00
Growth Factor	1.5160	1.5160	1.5160	1.5160	1.5160	1.5160	1.0000	1.0000	1.0000	1.5160	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	170	0	0	0	0	25	0	73
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	226	0	0	452	96	0	0	0	66	3	202
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	59	0	0	119	25	0	0	0	17	1	53
Total Analysis Volume [veh/h]	38	238	0	0	476	101	0	0	0	69	3	213
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				Yes
Number of Storage Spaces in Median	0	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.01	0.25
d_M, Delay for Movement [s/veh]	9.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.41	16.06	10.67
Movement LOS	A	A			A	A				B	C	B
95th-Percentile Queue Length [veh/ln]	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.51	1.00
95th-Percentile Queue Length [ft/ln]	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.67	12.67	24.88
d_A, Approach Delay [s/veh]	1.29			0.00			0.00			11.39		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	3.17											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: Bernard Drive at SR-41

Control Type:	Roundabout	Delay (sec / veh):	6.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name														
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	1	1	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.2	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Crosswalk	No				Yes				No			No		

Volumes

Name														
Base Volume Input [veh/h]	39	39	115	21	0	43	132	8	5	10	38	49	5	18
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.00	23.00	23.00	23.00	23.00	23.00
Growth Factor	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.5160	1.5160	1.5160	1.5160	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	73	0	0	0	170	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	59	59	247	32	0	65	370	12	8	15	58	74	8	27
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	16	65	8	0	17	97	3	2	4	15	19	2	7
Total Analysis Volume [veh/h]	62	62	260	34	0	68	389	13	8	16	61	78	8	28
Pedestrian Volume [ped/h]	0				0				0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1				1				1			1		
Circulating Flow Rate [veh/h]	113				258				734			482		
Exiting Flow Rate [veh/h]	726				364				102			145		
Demand Flow Rate [veh/h]	59	59	247	32	0	65	370	12	8	15	58	74	8	27
Adjusted Demand Flow Rate [veh/h]	62	62	260	34	0	68	389	13	8	16	61	78	8	28

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00091	0.00091	0.00091	0.00091	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Entry Flow Rate [veh/h]	242	273	272	307	30	76	96	45
Capacity of Entry and Bypass Lanes [veh/h]	1282	1282	1123	1123	728	728	916	916
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1042	1042	913	913	592	592	745	745
X, volume / capacity	0.19	0.21	0.24	0.27	0.04	0.10	0.10	0.05

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.69	0.80	0.95	1.11	0.13	0.34	0.35	0.15
95th-Percentile Queue Length [ft]	17.32	20.11	23.69	27.78	3.16	8.57	8.74	3.80
Approach Delay [s/veh]	5.33		6.61		7.08		5.73	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	6.06							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 4: 25th Avenue at SR-41

Control Type:	Two-way stop	Delay (sec / veh):	16.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.052

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	113	4	8	181	11	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	23.00	23.00	23.00	23.00	23.00	23.00
Growth Factor	1.5160	1.5160	1.5160	1.5160	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	73	0	0	170	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	244	6	12	444	17	30
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	64	2	3	117	4	8
Total Analysis Volume [veh/h]	257	6	13	467	18	32
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.05	0.04
d_M, Delay for Movement [s/veh]	0.00	0.00	8.06	0.00	16.05	10.15
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.03	0.03	0.17	0.14
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.83	0.83	4.13	3.43
d_A, Approach Delay [s/veh]	0.00		0.22		12.28	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.91					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 8: Utica Avenue at Frontage Road

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	23	24	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	23.00	23.00	23.00	23.00	23.00	23.00
Growth Factor	1.5160	1.5160	1.5160	1.5160	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	25	57	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	60	93	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	16	24	0
Total Analysis Volume [veh/h]	0	0	0	63	98	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.60	8.98	7.62	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.29		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

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Report File: H:\...\2040_AM_area.pdf
Scenario 26 BO_AM_area
4/15/2020

Turning Movement Volume: Summary

ID	Intersection Name	Northbound		Southbound			Eastbound			Total Volume
		Thru	Right	U-T	Left	Thru	Left	Thru	Right	
1	South Bound I-5 at SR-41 Ramps	155	65	3	272	246	105	3	27	876

ID	Intersection Name	Northbound		Southbound		Westbound			Total Volume
		Left	Thru	Thru	Right	Left	Thru	Right	
2	North Bound I-5 at SR-41 Ramps	36	226	452	96	66	3	202	1081

ID	Intersection Name	Northbound				Southbound				Eastbound			Westbound		
		U-T	Left	Thru	Right	U-T	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3	Bernard Drive at SR-41	59	59	247	32	0	65	370	12	8	15	58	74	8	27

Total Volume
1034

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
4	25th Avenue at SR-41	244	6	12	444	17	30	753

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
8	Utica Avenue at Frontage Road	0	0	0	60	93	0	153

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Report File: H:\...\2040_AM_area.pdf
Scenario 26 BO_AM_area
4/15/2020

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound		Southbound			Eastbound			Total Volume
			Thru	Right	U-T	Left	Thru	Left	Thru	Right	
1	South Bound I-5 at SR-41 Ramps	Final Base	102	5	2	67	146	69	2	18	411
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0	0	0
		Net New Trips	0	57	0	170	25	0	0	0	252
		Other	0	0	0	0	0	0	0	0	0
		Future Total	**155**	**65**	**3**	**272**	**246**	**105**	**3**	**27**	**876**

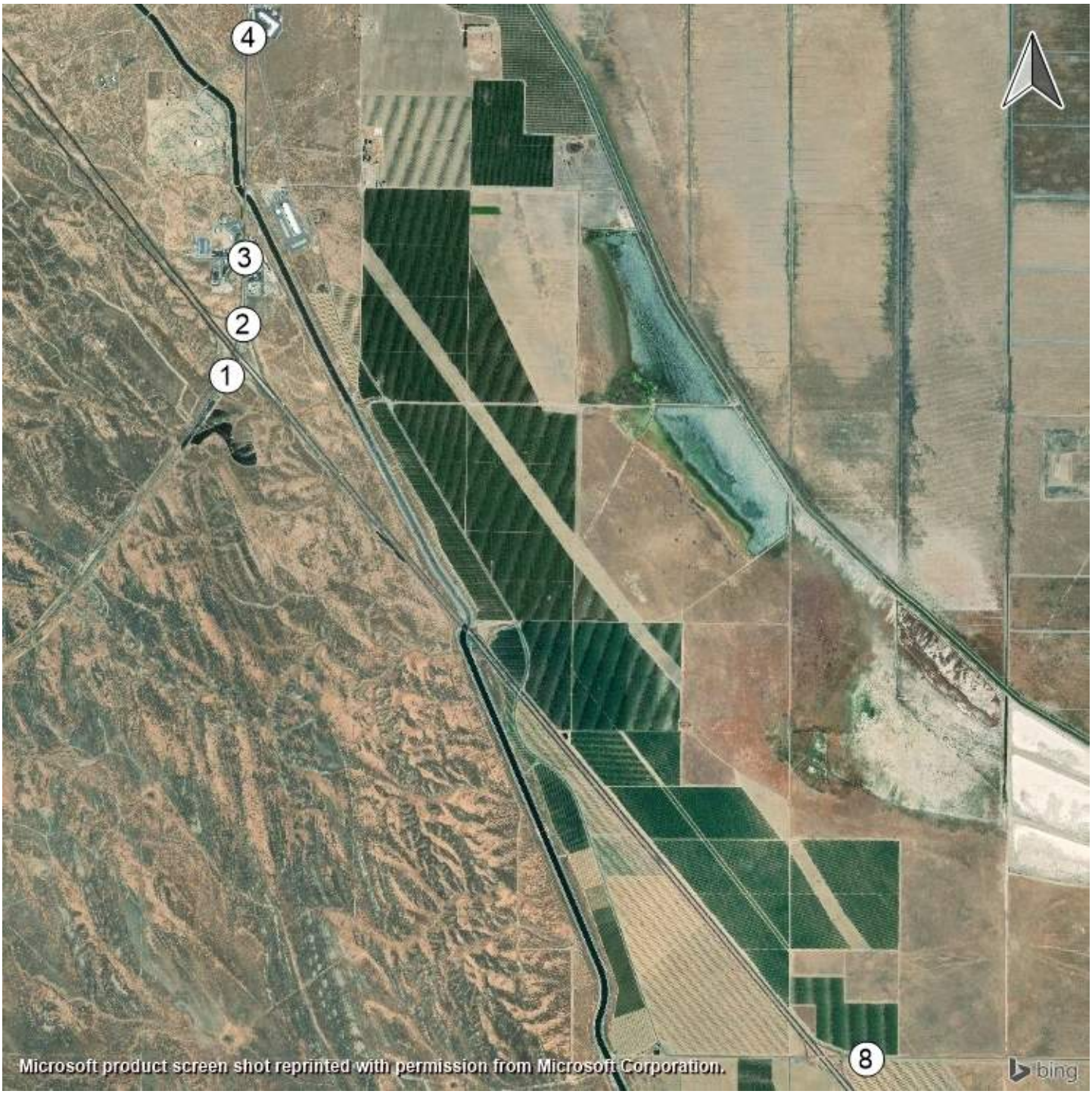
ID	Intersection Name	Volume Type	Northbound		Southbound		Westbound			Total Volume
			Left	Thru	Thru	Right	Left	Thru	Right	
2	North Bound I-5 at SR-41 Ramps	Final Base	24	149	186	63	27	2	85	536
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	0	170	0	25	0	73	268
		Other	0	0	0	0	0	0	0	0
		Future Total	**36**	**226**	**452**	**96**	**66**	**3**	**202**	**1081**

ID	Intersection Name	Volume Type	Northbound				Southbound				Eastbound			Westbound			Total Volume
			U-T	Left	Thru	Right	U-T	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Bernard Drive at SR-41	Final Base	39	39	115	21	0	43	132	8	5	10	38	49	5	18	522
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	73	0	0	0	170	0	0	0	0	0	0	0	243
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**59**	**59**	**247**	**32**	**0**	**65**	**370**	**12**	**8**	**15**	**58**	**74**	**8**	**27**	**1034**

ID	Intersection Name	Volume Type	Northbound		Southbound		Westbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
4	25th Avenue at SR-41	Final Base	113	4	8	181	11	20	337
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	73	0	0	170	0	0	243
		Other	0	0	0	0	0	0	0
		Future Total	**244**	**6**	**12**	**444**	**17**	**30**	**753**

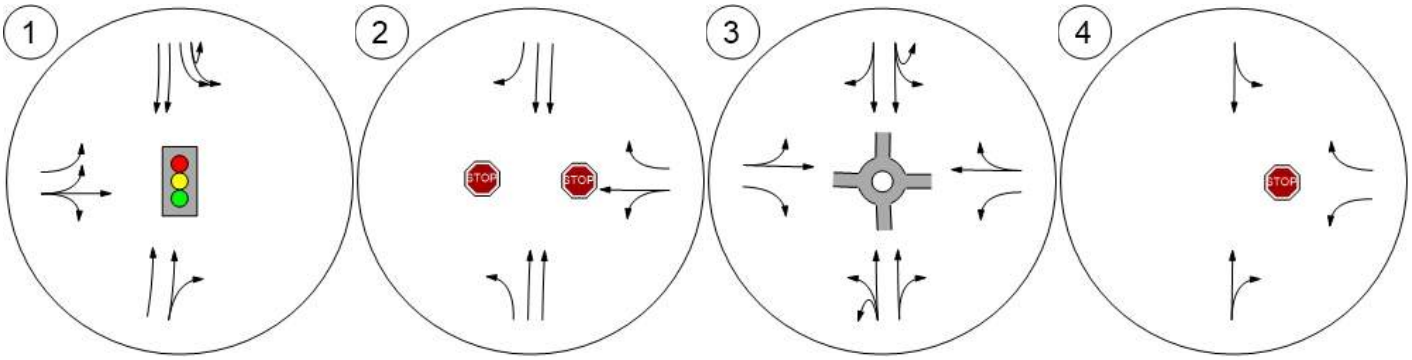
ID	Intersection Name	Volume Type	Southbound		Eastbound		Westbound		Total Volume
			Left	Right	Left	Thru	Thru	Right	
8	Utica Avenue at Frontage Road	Final Base	0	0	0	23	24	0	47
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	25	57	0	82
		Other	0	0	0	0	0	0	0
		Future Total	**0**	**0**	**0**	**60**	**93**	**0**	**153**

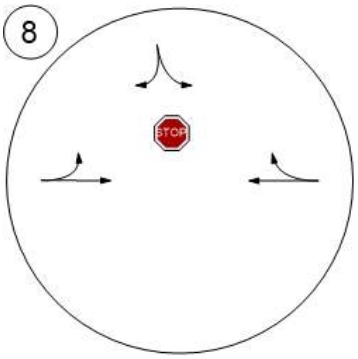
Study Intersections



Lane Configuration and Traffic Control

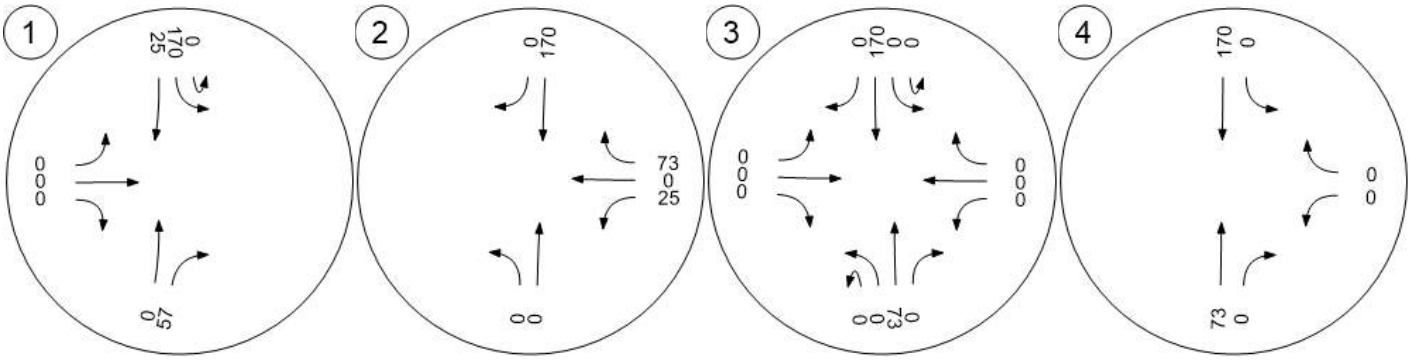


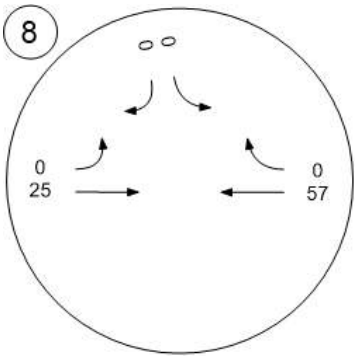




Traffic Volume - Net New Site Trips

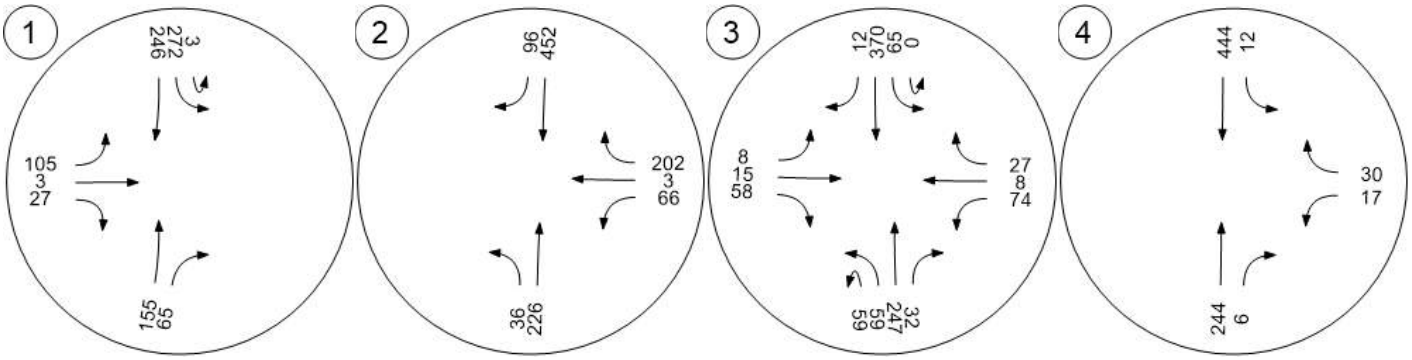


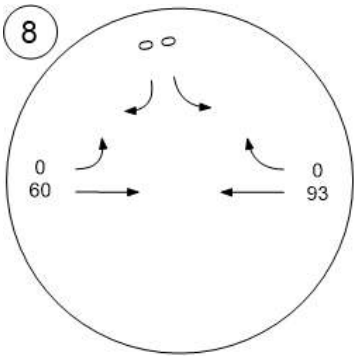




Traffic Volume - Future Total Volume







Intersection Level Of Service Report
Intersection 5: Utica Avenue at South Bound 25th Street

Control Type:	Roundabout	Delay (sec / veh):	10.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	6	14	5	2	4	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	13.00	13.00	13.00	13.00	13.00	13.00
Growth Factor	1.5160	1.5160	1.5160	1.5160	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	750	0	0	494	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	771	8	3	500	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	203	2	1	132	1
Total Analysis Volume [veh/h]	9	812	8	3	526	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	9		594		10	
Exiting Flow Rate [veh/h]	598		12		927	
Demand Flow Rate [veh/h]	9	771	8	3	500	2
Adjusted Demand Flow Rate [veh/h]	9	812	8	3	526	2

Lanes

Overwrite Calculated Critical Headway	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00
A (intercept)	1380.00	1380.00	1380.00
B (coefficient)	0.00102	0.00102	0.00102
HV Adjustment Factor	0.88	0.88	0.88
Entry Flow Rate [veh/h]	928	13	597
Capacity of Entry and Bypass Lanes [veh/h]	1368	753	1366
Pedestrian Impedance	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1211	667	1209
X, volume / capacity	0.68	0.02	0.44

Movement, Approach, & Intersection Results

Lane LOS	B	A	A
95th-Percentile Queue Length [veh]	5.67	0.05	2.27
95th-Percentile Queue Length [ft]	141.75	1.26	56.67
Approach Delay [s/veh]	12.40	5.58	7.45
Approach LOS	B	A	A
Intersection Delay [s/veh]	10.42		
Intersection LOS	B		

Intersection Level Of Service Report
Intersection 6: Utica Avenue at South Bound I-5 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	27.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.022

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	21	3	2	0	19	1	0	3	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	13.00	13.00	13.00	2.00	13.00	13.00	13.00	13.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.5160	1.5160	1.5160	1.0000	1.5160	1.5160	1.5160	1.5160	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	316	0	554	196	0	178	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	32	5	319	0	583	198	0	183	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	8	1	84	0	153	52	0	48	0
Total Analysis Volume [veh/h]	0	0	0	34	5	336	0	614	208	0	193	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane		No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.14	0.02	0.41	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	26.79	27.81	16.41	0.00	0.00	0.00	9.73	0.00	0.00
Movement LOS				D	D	C		A	A	A	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	3.62	3.62	3.62	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	90.38	90.38	90.38	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			17.50			0.00			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	4.72											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 7: Utica Avenue at North Bound I-5 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	497.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.780

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	1	4	2	0	0	0	10	31	0	0	2	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	13.00	13.00	13.00	2.00	2.00	2.00	13.00	13.00	2.00	2.00	13.00	13.00
Growth Factor	1.5160	1.5160	1.5160	1.0000	1.0000	1.0000	1.5160	1.5160	1.0000	1.0000	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	148	0	0	0	0	0	497	57	0	0	30	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	150	6	3	0	0	0	512	104	0	0	33	26
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	2	1	0	0	0	135	27	0	0	9	7
Total Analysis Volume [veh/h]	158	6	3	0	0	0	539	109	0	0	35	27
Pedestrian Volume [ped/h]	0			0			0			0		

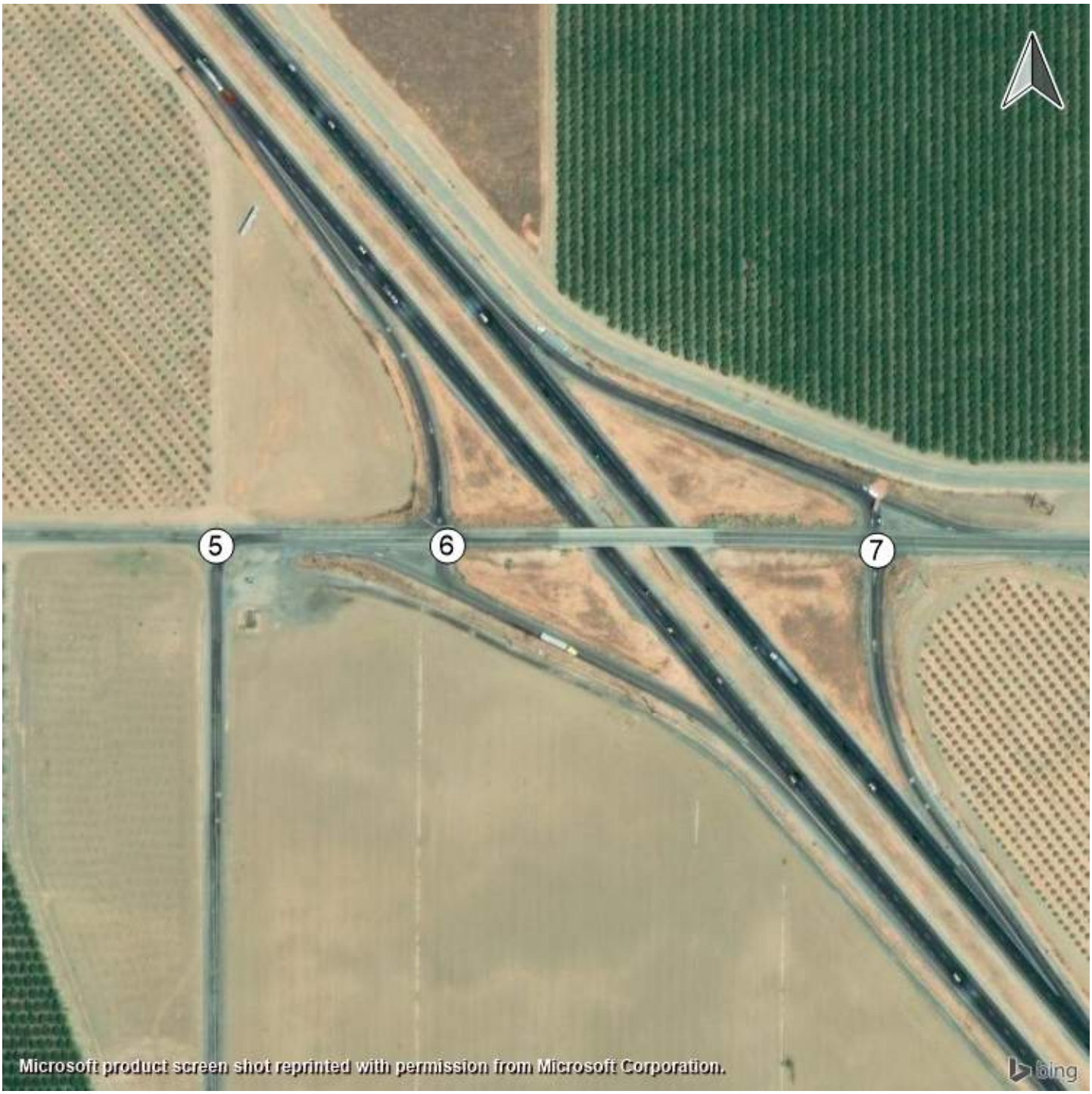
Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No			
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	1.78	0.06	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	497.92	493.16	461.28	0.00	0.00	0.00	8.85	0.00	0.00	0.00	0.00	0.00
Movement LOS	F	F	F				A	A			A	A
95th-Percentile Queue Length [veh/ln]	14.02	14.02	14.02	0.00	0.00	0.00	1.71	1.71	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	350.44	350.44	350.44	0.00	0.00	0.00	42.63	42.63	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	497.09			0.00			7.36			0.00		
Approach LOS	F			A			A			A		
d_I, Intersection Delay [s/veh]	100.09											
Intersection LOS	F											

Study Intersections



Traffic Volume - Net New Site Trips



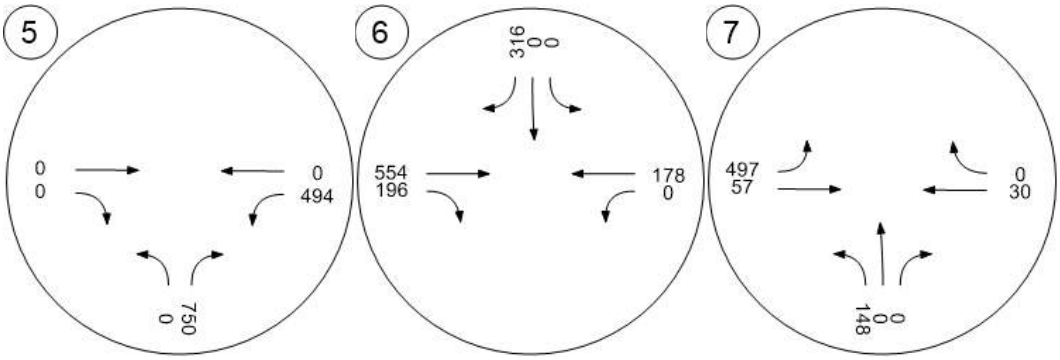


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Report File: H:\...\2040_PM_area.pdf
Scenario 27 BO_PM_area
4/15/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	South Bound I-5 at SR-41 Ramps	Signalized	HCM 6th Edition	SB U-T	0.353	47.9	D
2	North Bound I-5 at SR-41 Ramps	Two-way stop	HCM 6th Edition	WB Left	0.152	14.8	B
3	Bernard Drive at SR-41	Roundabout	HCM 6th Edition	WB Left		6.3	A
4	25th Avenue at SR-41	Two-way stop	HCM 6th Edition	WB Left	0.012	19.6	C
8	Utica Avenue at Frontage Road	Two-way stop	HCM 6th Edition	SB Left	0.004	9.6	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: South Bound I-5 at SR-41 Ramps

Control Type:	Signalized	Delay (sec / veh):	47.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.353

Intersection Setup

Name													
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.	100.	100.	100.	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No					
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name													
Base Volume Input [veh/h]	0	198	17	1	86	161	0	72	8	32	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	13.00	13.00	13.0	13.0	13.0	2.00	13.00	13.00	13.00	2.00	2.00	2.00
Growth Factor	1.0000	1.5160	1.5160	1.51	1.51	1.51	1.00	1.5160	1.5160	1.5160	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	30	0	89	57	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	300	56	2	219	301	0	109	12	49	0	0	0
Peak Hour Factor	1.0000	0.9500	0.9500	0.95	0.95	0.95	1.00	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	79	15	1	58	79	0	29	3	13	0	0	0
Total Analysis Volume [veh/h]	0	316	59	2	231	317	0	115	13	52	0	0	0
Presence of On-Street Parking	No		No	No			No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree		0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [		0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor stree		0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [		0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0		
Bicycle Volume [bicycles/h]		0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permis	Permis	Permis	Perm	Prote	Perm	Perm	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	0	2	0	0	1	6	0	0	4	0	0	0	0
Auxiliary Signal Groups													
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	21	0	0	12	33	0	0	27	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	6	0	0	0	6	0	0	18	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No			No	No			No				
Maximum Recall		No			No	No			No				
Pedestrian Recall		No			No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	L	C	L	C	
C, Cycle Length [s]	60	60	60	60	60	60	60	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	34	34	8	8	46	6	6	
g / C, Green / Cycle	0.57	0.57	0.13	0.13	0.77	0.10	0.10	
(v / s)_i Volume / Saturation Flow Rate	0.12	0.13	0.16	0.16	0.11	0.06	0.06	
s, saturation flow rate [veh/h]	1534	1454	1461	1461	2921	1461	1373	
c, Capacity [veh/h]	871	825	196	196	2246	144	135	
d1, Uniform Delay [s]	6.40	6.45	26.04	26.04	1.80	26.10	26.14	
k, delay calibration	0.50	0.50	0.11	0.11	0.50	0.11	0.11	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.57	0.64	94.99	90.82	0.13	4.66	5.27	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.22	0.23	1.19	1.18	0.14	0.64	0.65	
d, Delay for Lane Group [s/veh]	6.96	7.09	121.03	116.86	1.94	30.75	31.41	
Lane Group LOS	A	A	F	F	A	C	C	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	1.06	1.07	7.81	7.58	0.21	1.38	1.35	
50th-Percentile Queue Length [ft/ln]	26.43	26.85	195.19	189.50	5.31	34.45	33.66	
95th-Percentile Queue Length [veh/ln]	1.90	1.93	13.24	12.88	0.38	2.48	2.42	
95th-Percentile Queue Length [ft/ln]	47.57	48.33	330.89	321.97	9.55	62.01	60.59	

Movement, Approach, & Intersection Results

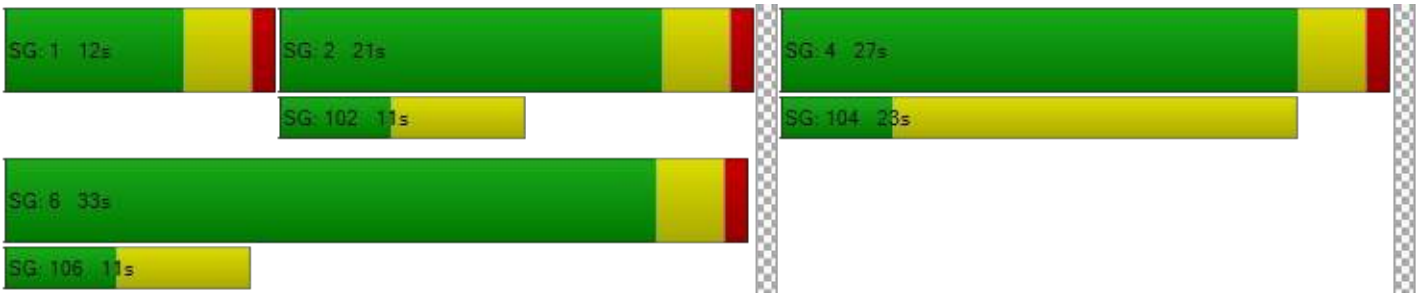
d_M, Delay for Movement [s/veh]	0.00	7.02	7.09	121.	118.	1.94	0.00	30.89	31.41	31.41	0.00	0.00	0.00
Movement LOS		A	A	F	F	A		C	C	C			
d_A, Approach Delay [s/veh]	7.03			71.46				31.07			0.00		
Approach LOS	A			E				C			A		
d_I, Intersection Delay [s/veh]	47.93												
Intersection LOS	D												
Intersection V/C	0.353												

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	21.68
l_p,int, Pedestrian LOS Score for Intersection	2.293	2.593	1.979	1.843
Crosswalk LOS	B	B	A	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	567	967	767	0
d_b, Bicycle Delay [s]	15.41	8.01	11.41	30.00
l_b,int, Bicycle LOS Score for Intersection	1.869	1.823	1.857	4.132
Bicycle LOS	A	A	A	D

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: North Bound I-5 at SR-41 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	14.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.152

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	25	246	0	0	244	97	0	0	0	4	0	102
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	13.00	13.00	13.00	13.00	13.00	13.00	2.00	2.00	2.00	13.00	13.00	13.00
Growth Factor	1.5160	1.5160	1.5160	1.5160	1.5160	1.5160	1.0000	1.0000	1.0000	1.5160	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	89	0	0	0	0	57	0	170
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	38	373	0	0	459	147	0	0	0	63	0	325
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	98	0	0	121	39	0	0	0	17	0	86
Total Analysis Volume [veh/h]	40	393	0	0	483	155	0	0	0	66	0	342
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				Yes
Number of Storage Spaces in Median	0	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.44
d_M, Delay for Movement [s/veh]	9.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.77	17.16	13.20
Movement LOS	A	A			A	A				B	C	B
95th-Percentile Queue Length [veh/ln]	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.53	0.53	2.26
95th-Percentile Queue Length [ft/ln]	3.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.29	13.29	56.42
d_A, Approach Delay [s/veh]	0.86			0.00			0.00			13.45		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	3.96											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 3: Bernard Drive at SR-41

Control Type:	Roundabout	Delay (sec / veh):	6.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name														
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	1	1	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.2	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Crosswalk	No				Yes				No			No		

Volumes

Name														
Base Volume Input [veh/h]	63	27	214	26	0	40	158	8	8	10	36	80	6	29
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.00	13.00	13.00	13.00	13.00	13.00
Growth Factor	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.5160	1.5160	1.5160	1.5160	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	170	0	0	0	89	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	96	41	494	39	0	61	329	12	12	15	55	121	9	44
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	11	130	10	0	16	87	3	3	4	14	32	2	12
Total Analysis Volume [veh/h]	101	43	520	41	0	64	346	13	13	16	58	127	9	46
Pedestrian Volume [ped/h]	0				0				0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1				1				1			1		
Circulating Flow Rate [veh/h]	105				316				721			765		
Exiting Flow Rate [veh/h]	714				654				73			137		
Demand Flow Rate [veh/h]	96	41	494	39	0	61	329	12	12	15	55	121	9	44
Adjusted Demand Flow Rate [veh/h]	101	43	520	41	0	64	346	13	13	16	58	127	9	46

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00091	0.00091	0.00091	0.00091	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Entry Flow Rate [veh/h]	375	423	225	254	33	66	144	63
Capacity of Entry and Bypass Lanes [veh/h]	1291	1291	1065	1065	737	737	708	708
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1143	1143	943	943	653	653	627	627
X, volume / capacity	0.29	0.33	0.21	0.24	0.04	0.09	0.20	0.09

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	1.21	1.44	0.80	0.93	0.14	0.29	0.75	0.29
95th-Percentile Queue Length [ft]	30.29	35.93	19.89	23.18	3.48	7.29	18.84	7.19
Approach Delay [s/veh]	6.11		6.06		6.34		7.77	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	6.33							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 4: 25th Avenue at SR-41

Control Type:	Two-way stop	Delay (sec / veh):	19.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	242	1	13	188	2	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	13.00	13.00	13.00	13.00	13.00	13.00
Growth Factor	1.5160	1.5160	1.5160	1.5160	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	170	0	0	89	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	537	2	20	374	3	20
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	141	1	5	98	1	5
Total Analysis Volume [veh/h]	565	2	21	394	3	21
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.02	0.00	0.01	0.04
d_M, Delay for Movement [s/veh]	0.00	0.00	8.86	0.00	19.62	12.46
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.07	0.07	0.04	0.13
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.69	1.69	0.91	3.26
d_A, Approach Delay [s/veh]	0.00		0.45		13.36	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.50					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 8: Utica Avenue at Frontage Road

Control Type:	Two-way stop	Delay (sec / veh):	9.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	2	0	2	31	18	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	13.00	13.00	13.00	13.00	13.00	13.00
Growth Factor	1.5160	1.5160	1.5160	1.5160	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	57	30	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	0	3	104	57	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	1	27	15	0
Total Analysis Volume [veh/h]	3	0	3	109	60	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.58	8.71	7.44	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.29	0.29	0.15	0.15	0.00	0.00
d_A, Approach Delay [s/veh]	9.58		0.20		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.29					
Intersection LOS	A					

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Report File: H:\...\2040_PM_area.pdf

Scenario 27 BO_PM_area
4/15/2020

Turning Movement Volume: Summary

ID	Intersection Name	Northbound		Southbound			Eastbound			Total Volume
		Thru	Right	U-T	Left	Thru	Left	Thru	Right	
1	South Bound I-5 at SR-41 Ramps	300	56	2	219	301	109	12	49	1048

ID	Intersection Name	Northbound		Southbound		Westbound			Total Volume
		Left	Thru	Thru	Right	Left	Thru	Right	
2	North Bound I-5 at SR-41 Ramps	38	373	459	147	63	0	325	1405

ID	Intersection Name	Northbound				Southbound				Eastbound			Westbound		
		U-T	Left	Thru	Right	U-T	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3	Bernard Drive at SR-41	96	41	494	39	0	61	329	12	12	15	55	121	9	44

Total Volume
1328

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
4	25th Avenue at SR-41	537	2	20	374	3	20	956

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
8	Utica Avenue at Frontage Road	3	0	3	104	57	0	167

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Scenario 27 BO_PM_area
4/15/2020

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound		Southbound			Eastbound			Total Volume
			Thru	Right	U-T	Left	Thru	Left	Thru	Right	
1	South Bound I-5 at SR-41 Ramps	Final Base	198	17	1	86	161	72	8	32	575
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0	0	0
		Net New Trips	0	30	0	89	57	0	0	0	176
		Other	0	0	0	0	0	0	0	0	0
		Future Total	**300**	**56**	**2**	**219**	**301**	**109**	**12**	**49**	**1048**

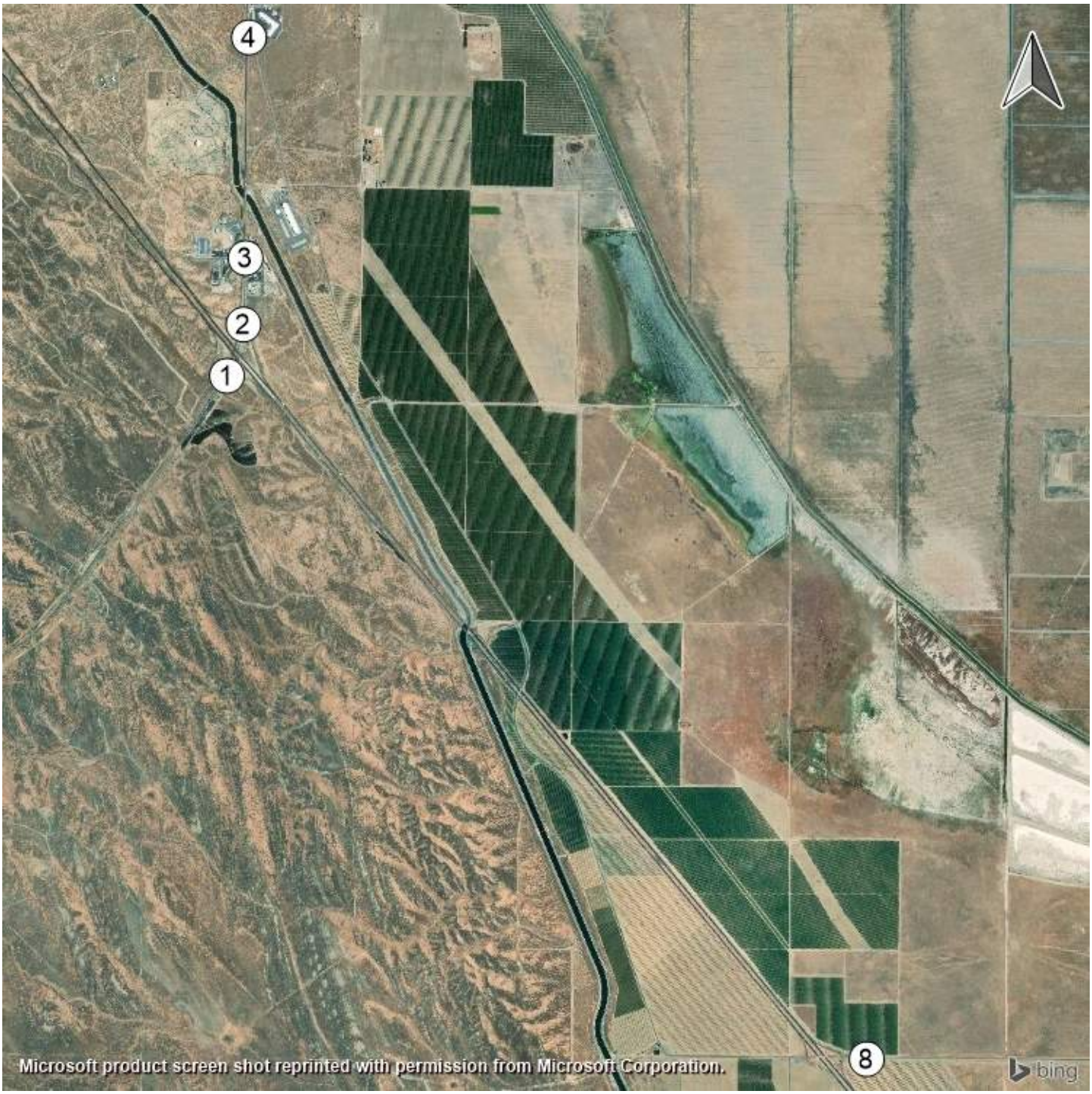
ID	Intersection Name	Volume Type	Northbound		Southbound		Westbound			Total Volume
			Left	Thru	Thru	Right	Left	Thru	Right	
2	North Bound I-5 at SR-41 Ramps	Final Base	25	246	244	97	4	0	102	718
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	0	89	0	57	0	170	316
		Other	0	0	0	0	0	0	0	0
		Future Total	**38**	**373**	**459**	**147**	**63**	**0**	**325**	**1405**

ID	Intersection Name	Volume Type	Northbound				Southbound				Eastbound			Westbound			Total Volume
			U-T	Left	Thru	Right	U-T	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Bernard Drive at SR-41	Final Base	63	27	214	26	0	40	158	8	8	10	36	80	6	29	705
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	170	0	0	0	89	0	0	0	0	0	0	0	259
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**96**	**41**	**494**	**39**	**0**	**61**	**329**	**12**	**12**	**15**	**55**	**121**	**9**	**44**	**1328**

ID	Intersection Name	Volume Type	Northbound		Southbound		Westbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
4	25th Avenue at SR-41	Final Base	242	1	13	188	2	13	459
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	170	0	0	89	0	0	259
		Other	0	0	0	0	0	0	0
		Future Total	**537**	**2**	**20**	**374**	**3**	**20**	**956**

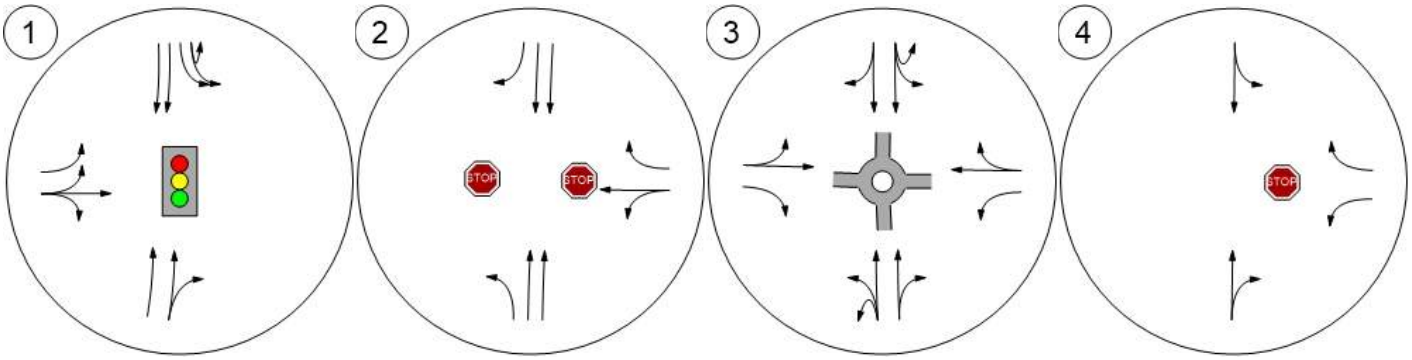
ID	Intersection Name	Volume Type	Southbound		Eastbound		Westbound		Total Volume
			Left	Right	Left	Thru	Thru	Right	
8	Utica Avenue at Frontage Road	Final Base	2	0	2	31	18	0	53
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	57	30	0	87
		Other	0	0	0	0	0	0	0
		Future Total	**3**	**0**	**3**	**104**	**57**	**0**	**167**

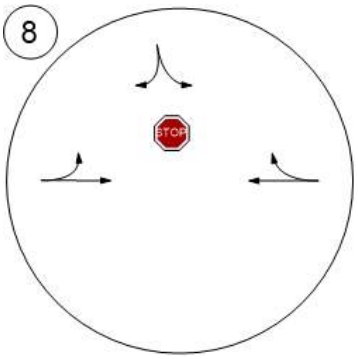
Study Intersections



Lane Configuration and Traffic Control

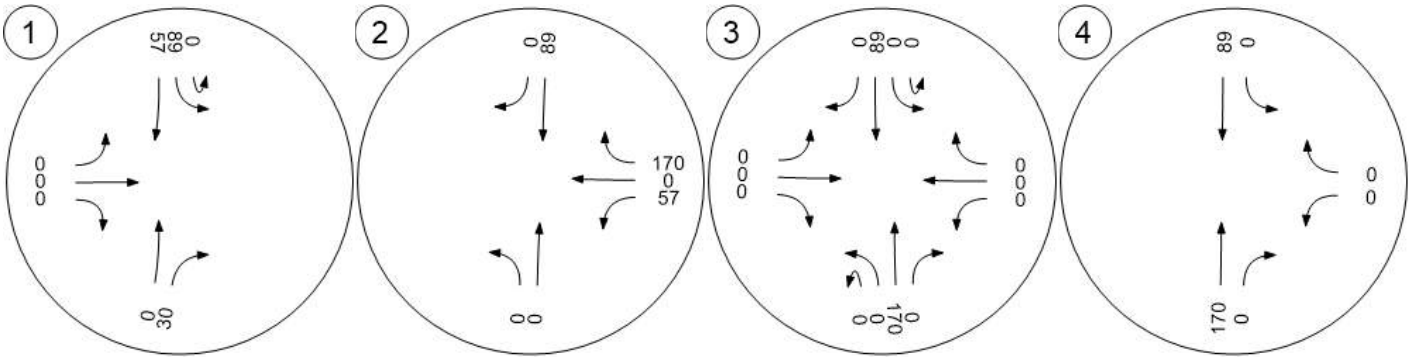


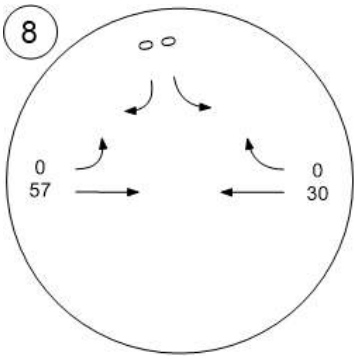




Traffic Volume - Net New Site Trips

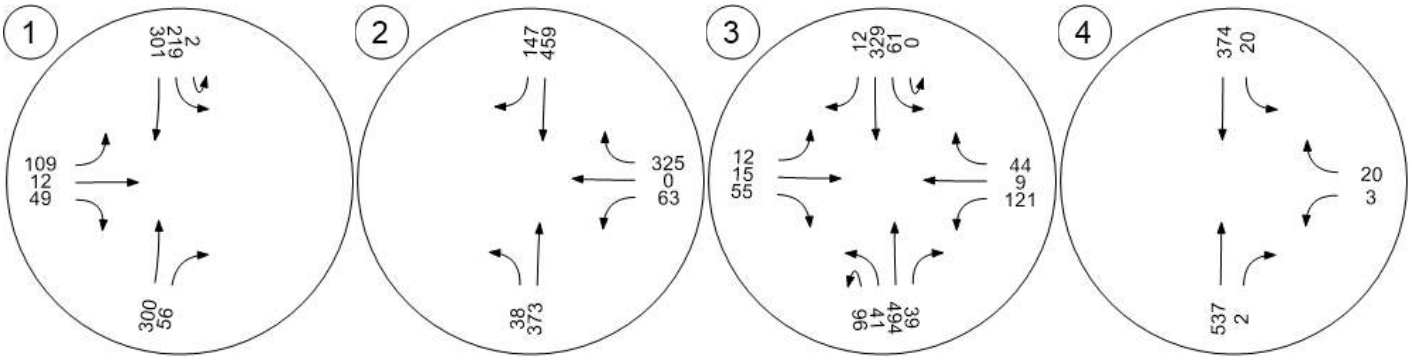


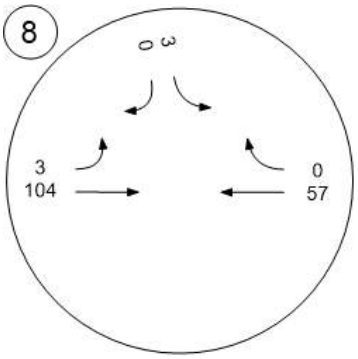




Traffic Volume - Future Total Volume







Intersection Level Of Service Report
Intersection 5: Utica Avenue at South Bound 25th Street

Control Type:	Roundabout	Delay (sec / veh):	14.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	33	77	7	4	5	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.00	11.00	11.00	11.00	11.00	11.00
Growth Factor	1.5160	1.5160	1.5160	1.5160	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	854	0	0	605	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	971	11	6	613	11
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	256	3	2	161	3
Total Analysis Volume [veh/h]	53	1022	12	6	645	12
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	13		716		59	
Exiting Flow Rate [veh/h]	723		72		1148	
Demand Flow Rate [veh/h]	50	971	11	6	613	11
Adjusted Demand Flow Rate [veh/h]	53	1022	12	6	645	12

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1380.00	1380.00
B (coefficient)	0.00091	0.00091	0.00102	0.00102
HV Adjustment Factor	0.90	0.90	0.90	0.90
Entry Flow Rate [veh/h]	59	1135	20	730
Capacity of Entry and Bypass Lanes [veh/h]	1403	1403	665	1300
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1264	1264	599	1171
X, volume / capacity	0.04	0.81	0.03	0.56

Movement, Approach, & Intersection Results

Lane LOS	A	C	A	A
95th-Percentile Queue Length [veh]	0.13	9.62	0.09	3.63
95th-Percentile Queue Length [ft]	3.28	240.43	2.32	90.77
Approach Delay [s/veh]	16.89		6.35	9.74
Approach LOS	C		A	A
Intersection Delay [s/veh]	14.09			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 6: Utica Avenue at South Bound I-5 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	47.6
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.057

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	21	6	5	0	76	7	1	7	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	11.00	11.00	11.00	2.00	11.00	11.00	11.00	11.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.5160	1.5160	1.5160	1.0000	1.5160	1.5160	1.5160	1.5160	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	386	0	624	230	0	219	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	32	9	394	0	739	241	2	230	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	8	2	104	0	194	63	1	61	0
Total Analysis Volume [veh/h]	0	0	0	34	9	415	0	778	254	2	242	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop			Stop			Free			Free		
Flared Lane				No								
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance				No								
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.20	0.06	0.54	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	46.46	47.59	29.59	0.00	0.00	0.00	10.65	0.00	0.00
Movement LOS				E	E	D		A	A	B	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	7.66	7.66	7.66	0.00	0.00	0.00	0.01	0.01	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	191.59	191.59	191.59	0.00	0.00	0.00	0.24	0.24	0.00
d_A, Approach Delay [s/veh]	0.00			31.20			0.00			0.09		
Approach LOS	A			D			A			A		
d_I, Intersection Delay [s/veh]	8.25											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 7: Utica Avenue at North Bound I-5 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	1,971.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	4.873

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	1	2	5	0	0	0	58	38	0	0	10	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.00	11.00	11.00	2.00	2.00	2.00	11.00	11.00	2.00	2.00	11.00	11.00
Growth Factor	1.5160	1.5160	1.5160	1.0000	1.0000	1.0000	1.5160	1.5160	1.0000	1.0000	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	184	0	0	0	0	0	562	62	0	0	35	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	186	3	8	0	0	0	650	120	0	0	50	65
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	1	2	0	0	0	171	32	0	0	13	17
Total Analysis Volume [veh/h]	196	3	8	0	0	0	684	126	0	0	53	68
Pedestrian Volume [ped/h]	0			0			0			0		

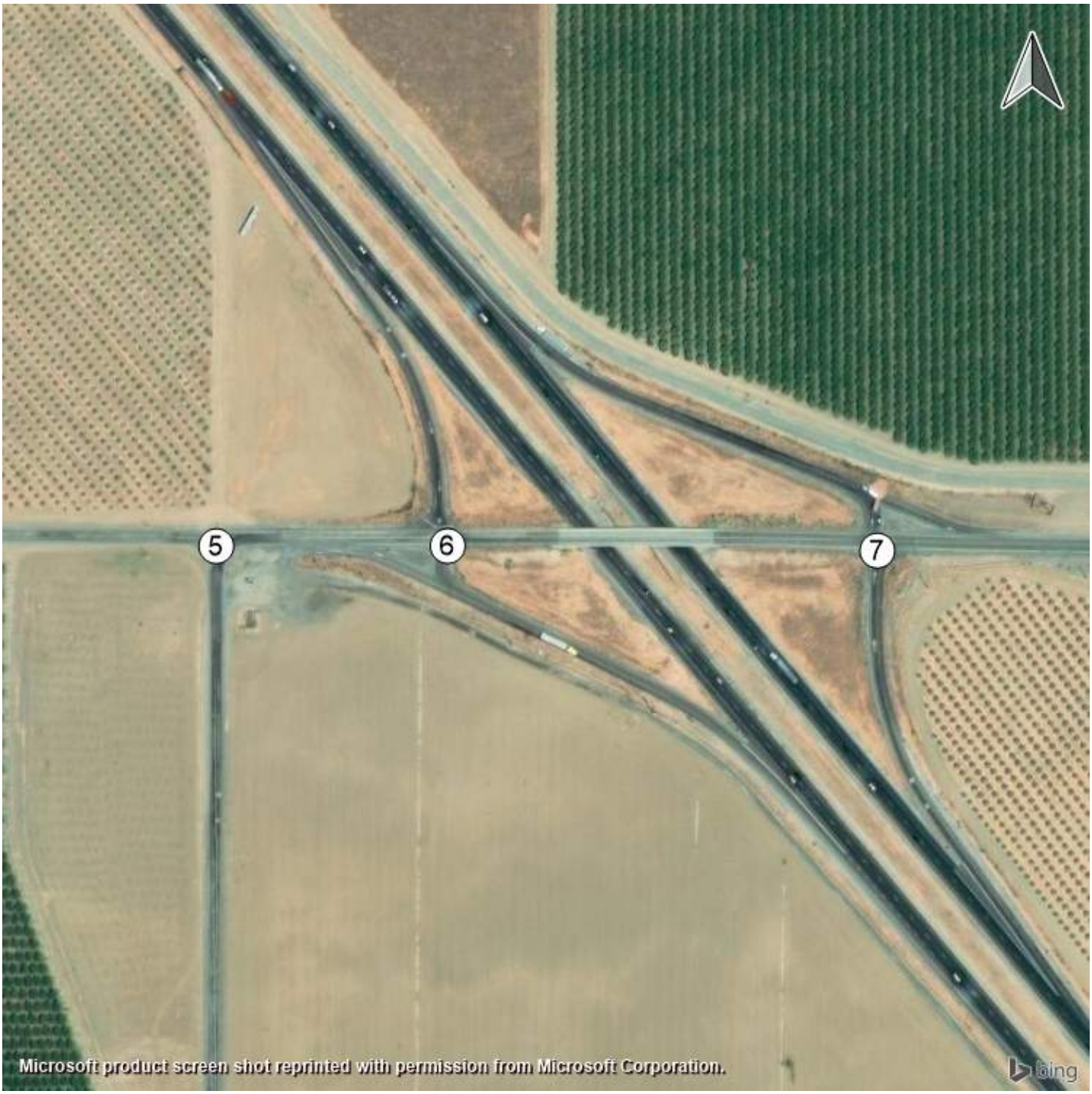
Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No			
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No			
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

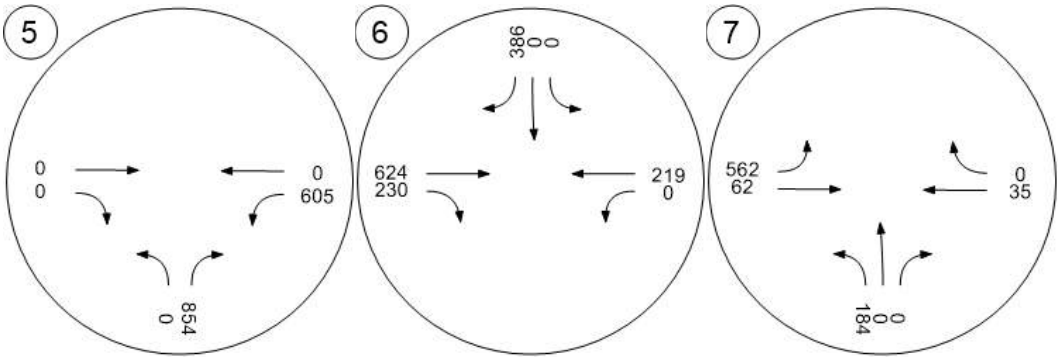
V/C, Movement V/C Ratio	4.87	0.06	0.01	0.00	0.00	0.00	0.48	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	1971.5	1957.9	1886.0	0.00	0.00	0.00	9.92	0.00	0.00	0.00	0.00	0.00
Movement LOS	F	F	F				A	A			A	A
95th-Percentile Queue Length [veh/ln]	23.89	23.89	23.89	0.00	0.00	0.00	2.73	2.73	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	597.28	597.28	597.28	0.00	0.00	0.00	68.37	68.37	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	1968.08			0.00			8.37			0.00		
Approach LOS	F			A			A			A		
d_I, Intersection Delay [s/veh]	363.95											
Intersection LOS	F											

Study Intersections



Traffic Volume - Net New Site Trips





Traffic Volume - Future Total Volume



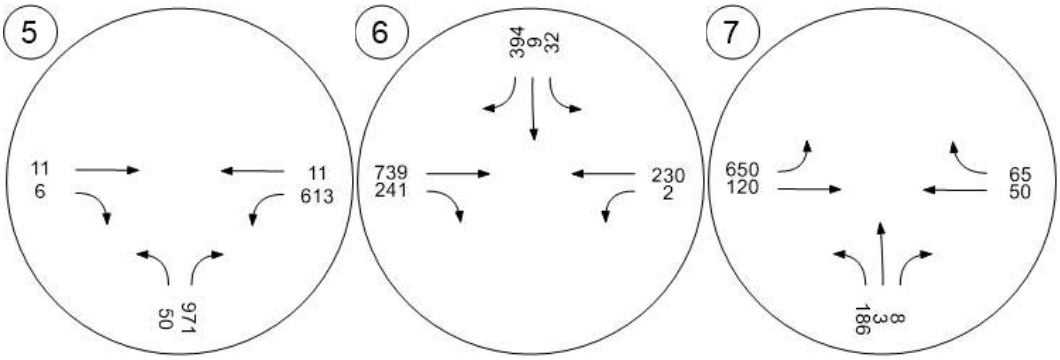


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Report File: H:\...\2040_FRI_areawide.pdf
Scenario 10 2040_FRI_areawide
4/15/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	South Bound I-5 at SR-41 Ramps	Signalized	HCM 6th Edition	SB U-T	0.501	44.4	D
2	North Bound I-5 at SR-41 Ramps	Two-way stop	HCM 6th Edition	WB Thru	0.015	29.4	D
3	Bernard Drive at SR-41	Roundabout	HCM 6th Edition	WB Left		9.7	A
4	25th Avenue at SR-41	Two-way stop	HCM 6th Edition	WB Right	0.156	14.9	B
8	Utica Avenue at Frontage Road	Two-way stop	HCM 6th Edition	SB Right	0.003	9.0	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: South Bound I-5 at SR-41 Ramps

Control Type:	Signalized	Delay (sec / veh):	44.4
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.501

Intersection Setup

Name													
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.	100.	100.	100.	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No					
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name													
Base Volume Input [veh/h]	0	251	38	4	145	294	0	98	7	63	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	11.00	11.00	11.0	11.0	11.0	2.00	11.00	11.00	11.00	2.00	2.00	2.00
Growth Factor	1.0000	1.5160	1.5160	1.51	1.51	1.51	1.00	1.5160	1.5160	1.5160	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	35	0	106	62	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	381	93	6	326	508	0	149	11	96	0	0	0
Peak Hour Factor	1.0000	0.9500	0.9500	0.95	0.95	0.95	1.00	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	100	24	2	86	134	0	39	3	25	0	0	0
Total Analysis Volume [veh/h]	0	401	98	6	343	535	0	157	12	101	0	0	0
Presence of On-Street Parking	No		No	No			No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree		0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [		0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor stree		0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [		0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0		
Bicycle Volume [bicycles/h]		0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permis	Permis	Permis	Perm	Prote	Perm	Perm	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	0	2	0	0	1	6	0	0	4	0	0	0	0
Auxiliary Signal Groups													
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	15	0	0	16	31	0	0	29	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	6	0	0	0	6	0	0	18	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No			No	No			No				
Maximum Recall		No			No	No			No				
Pedestrian Recall		No			No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	L	C	L	C	
C, Cycle Length [s]	60	60	60	60	60	60	60	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	28	28	12	12	44	8	8	
g / C, Green / Cycle	0.47	0.47	0.20	0.20	0.73	0.13	0.13	
(v / s)_i Volume / Saturation Flow Rate	0.16	0.17	0.23	0.23	0.18	0.09	0.10	
s, saturation flow rate [veh/h]	1561	1460	1487	1487	2973	1487	1366	
c, Capacity [veh/h]	725	678	297	297	2174	201	185	
d1, Uniform Delay [s]	10.24	10.38	24.00	24.00	2.64	24.75	24.79	
k, delay calibration	0.50	0.50	0.11	0.11	0.50	0.11	0.11	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	1.30	1.54	86.08	77.71	0.27	4.23	4.83	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.34	0.37	1.17	1.15	0.25	0.69	0.70	
d, Delay for Lane Group [s/veh]	11.53	11.91	110.08	101.71	2.91	28.98	29.62	
Lane Group LOS	B	B	F	F	A	C	C	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	2.05	2.10	11.00	10.30	0.60	2.02	1.91	
50th-Percentile Queue Length [ft/ln]	51.21	52.52	274.90	257.62	14.88	50.43	47.79	
95th-Percentile Queue Length [veh/ln]	3.69	3.78	17.71	16.65	1.07	3.63	3.44	
95th-Percentile Queue Length [ft/ln]	92.18	94.53	442.87	416.26	26.79	90.77	86.01	

Movement, Approach, & Intersection Results

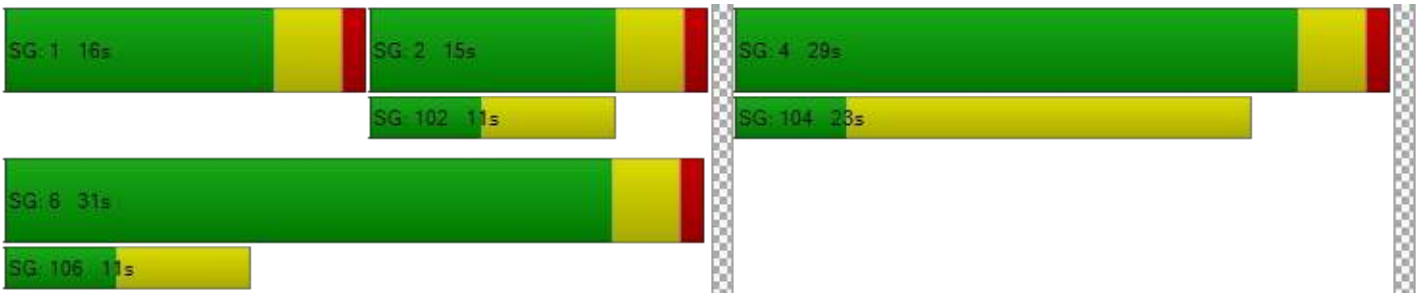
d_M, Delay for Movement [s/veh]	0.00	11.68	11.91	110.	105.	2.91	0.00	29.06	29.62	29.62	0.00	0.00	0.00
Movement LOS		B	B	F	F	A		C	C	C			
d_A, Approach Delay [s/veh]	11.72			61.01				29.29			0.00		
Approach LOS	B			E				C			A		
d_I, Intersection Delay [s/veh]	44.40												
Intersection LOS	D												
Intersection V/C	0.501												

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	21.68	21.68
l_p,int, Pedestrian LOS Score for Intersection	2.388	2.668	2.009	1.916
Crosswalk LOS	B	B	B	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	367	900	833	0
d_b, Bicycle Delay [s]	20.01	9.08	10.21	30.00
l_b,int, Bicycle LOS Score for Intersection	1.971	2.006	2.005	4.132
Bicycle LOS	A	B	B	D

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: North Bound I-5 at SR-41 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	29.4
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.015

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	47	335	0	0	395	147	0	0	0	20	2	181
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.00	11.00	11.00	11.00	11.00	11.00	2.00	2.00	2.00	11.00	11.00	11.00
Growth Factor	1.5160	1.5160	1.5160	1.5160	1.5160	1.5160	1.0000	1.0000	1.0000	1.5160	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	106	0	0	0	0	62	0	185
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	71	508	0	0	705	223	0	0	0	92	3	459
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	134	0	0	186	59	0	0	0	24	1	121
Total Analysis Volume [veh/h]	75	535	0	0	742	235	0	0	0	97	3	483
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				Yes
Number of Storage Spaces in Median	0	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.33	0.02	0.69
d_M, Delay for Movement [s/veh]	11.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23.51	29.44	20.52
Movement LOS	B	A			A	A				C	D	C
95th-Percentile Queue Length [veh/ln]	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.48	1.48	5.47
95th-Percentile Queue Length [ft/ln]	9.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36.93	36.93	136.76
d_A, Approach Delay [s/veh]	1.39			0.00			0.00			21.06		
Approach LOS	A			A			A			C		
d_I, Intersection Delay [s/veh]	6.05											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 3: Bernard Drive at SR-41

Control Type:	Roundabout	Delay (sec / veh):	9.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name														
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	1	1	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.2	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Crosswalk	No				Yes				No			No		

Volumes

Name														
Base Volume Input [veh/h]	110	47	270	49	1	71	245	13	7	9	58	153	7	47
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.00	11.00	11.00	11.00	11.00	11.00
Growth Factor	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.5160	1.5160	1.5160	1.5160	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	185	0	0	0	106	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	167	71	594	74	2	108	477	20	11	14	88	232	11	71
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	19	156	19	1	28	126	5	3	4	23	61	3	19
Total Analysis Volume [veh/h]	176	75	625	78	2	114	502	21	12	15	93	244	12	75
Pedestrian Volume [ped/h]	0				0				0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1				1				1				1		
Circulating Flow Rate [veh/h]	159				563				1152				988		
Exiting Flow Rate [veh/h]	1127				793				120				230		
Demand Flow Rate [veh/h]	167	71	594	74	2	108	477	20	11	14	88		232	11	71
Adjusted Demand Flow Rate [veh/h]	176	75	625	78	2	114	502	21	12	15	93		244	12	75

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00091	0.00091	0.00091	0.00091	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Entry Flow Rate [veh/h]	498	562	334	376	30	104	271	97
Capacity of Entry and Bypass Lanes [veh/h]	1230	1230	851	851	498	498	578	578
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1108	1108	767	767	449	449	521	521
X, volume / capacity	0.40	0.46	0.39	0.44	0.06	0.21	0.47	0.17

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	B	A	B	C	A
95th-Percentile Queue Length [veh]	1.99	2.44	1.87	2.28	0.19	0.77	2.47	0.60
95th-Percentile Queue Length [ft]	49.84	61.05	46.81	56.94	4.79	19.29	61.74	14.88
Approach Delay [s/veh]	7.88		10.14		10.64		13.61	
Approach LOS	A		B		B		B	
Intersection Delay [s/veh]	9.67							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 4: 25th Avenue at SR-41

Control Type:	Two-way stop	Delay (sec / veh):	14.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.156

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	311	2	11	314	0	42
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.00	11.00	11.00	11.00	11.00	11.00
Growth Factor	1.5160	1.5160	1.5160	1.5160	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	185	0	0	106	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	656	3	17	582	0	64
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	173	1	4	153	0	17
Total Analysis Volume [veh/h]	691	3	18	613	0	67
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.02	0.01	0.00	0.16
d_M, Delay for Movement [s/veh]	0.00	0.00	9.27	0.00	28.15	14.95
Movement LOS	A	A	A	A	D	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.06	0.06	0.00	0.55
95th-Percentile Queue Length [ft/ln]	0.00	0.00	1.60	1.60	0.00	13.73
d_A, Approach Delay [s/veh]	0.00		0.26		14.95	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.84					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 8: Utica Avenue at Frontage Road

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	0	2	0	44	54	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.00	11.00	11.00	11.00	11.00	11.00
Growth Factor	1.5160	1.5160	1.5160	1.5160	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	62	35	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	3	0	129	117	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	0	34	31	0
Total Analysis Volume [veh/h]	0	3	0	136	123	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.08	8.99	7.55	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.25	0.25	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	8.99		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.10					
Intersection LOS	A					

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Turning Movement Volume: Summary

ID	Intersection Name	Northbound		Southbound			Eastbound			Total Volume
		Thru	Right	U-T	Left	Thru	Left	Thru	Right	
1	South Bound I-5 at SR-41 Ramps	381	93	6	326	508	149	11	96	1570

ID	Intersection Name	Northbound		Southbound		Westbound			Total Volume
		Left	Thru	Thru	Right	Left	Thru	Right	
2	North Bound I-5 at SR-41 Ramps	71	508	705	223	92	3	459	2061

ID	Intersection Name	Northbound				Southbound				Eastbound			Westbound		
		U-T	Left	Thru	Right	U-T	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
3	Bernard Drive at SR-41	167	71	594	74	2	108	477	20	11	14	88	232	11	71

Total Volume
1940

ID	Intersection Name	Northbound		Southbound		Westbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
4	25th Avenue at SR-41	656	3	17	582	0	64	1322

ID	Intersection Name	Southbound		Eastbound		Westbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
8	Utica Avenue at Frontage Road	0	3	0	129	117	0	249

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Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound		Southbound			Eastbound			Total Volume
			Thru	Right	U-T	Left	Thru	Left	Thru	Right	
1	South Bound I-5 at SR-41 Ramps	Final Base	251	38	4	145	294	98	7	63	900
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0	0	0
		Net New Trips	0	35	0	106	62	0	0	0	203
		Other	0	0	0	0	0	0	0	0	0
		Future Total	**381**	**93**	**6**	**326**	**508**	**149**	**11**	**96**	**1570**

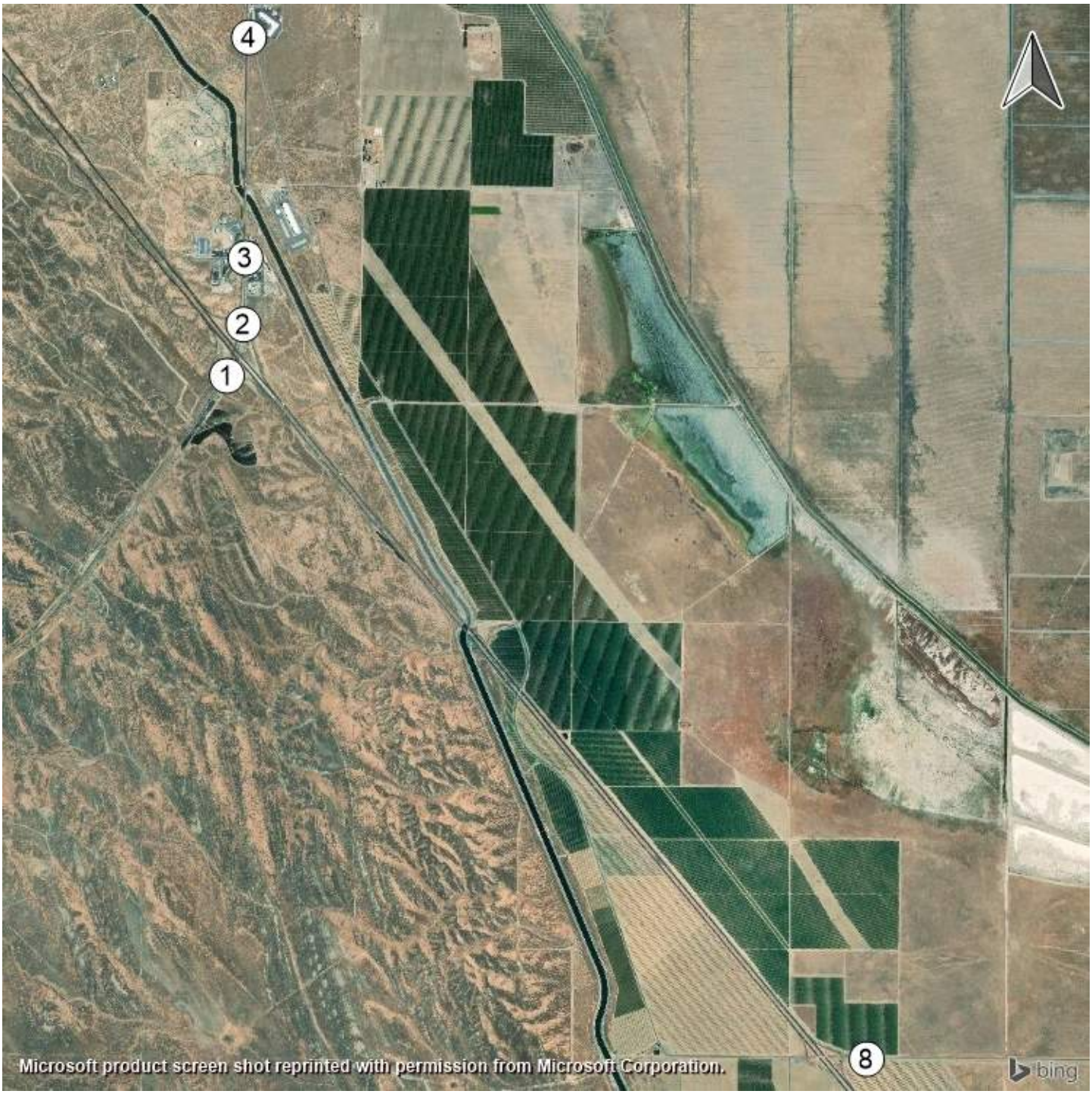
ID	Intersection Name	Volume Type	Northbound		Southbound		Westbound			Total Volume
			Left	Thru	Thru	Right	Left	Thru	Right	
2	North Bound I-5 at SR-41 Ramps	Final Base	47	335	395	147	20	2	181	1127
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	0	106	0	62	0	185	353
		Other	0	0	0	0	0	0	0	0
		Future Total	**71**	**508**	**705**	**223**	**92**	**3**	**459**	**2061**

ID	Intersection Name	Volume Type	Northbound				Southbound				Eastbound			Westbound			Total Volume
			U-T	Left	Thru	Right	U-T	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Bernard Drive at SR-41	Final Base	110	47	270	49	1	71	245	13	7	9	58	153	7	47	1087
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	185	0	0	0	106	0	0	0	0	0	0	0	291
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**167**	**71**	**594**	**74**	**2**	**108**	**477**	**20**	**11**	**14**	**88**	**232**	**11**	**71**	**1940**

ID	Intersection Name	Volume Type	Northbound		Southbound		Westbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
4	25th Avenue at SR-41	Final Base	311	2	11	314	0	42	680
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	185	0	0	106	0	0	291
		Other	0	0	0	0	0	0	0
		Future Total	**656**	**3**	**17**	**582**	**0**	**64**	**1322**

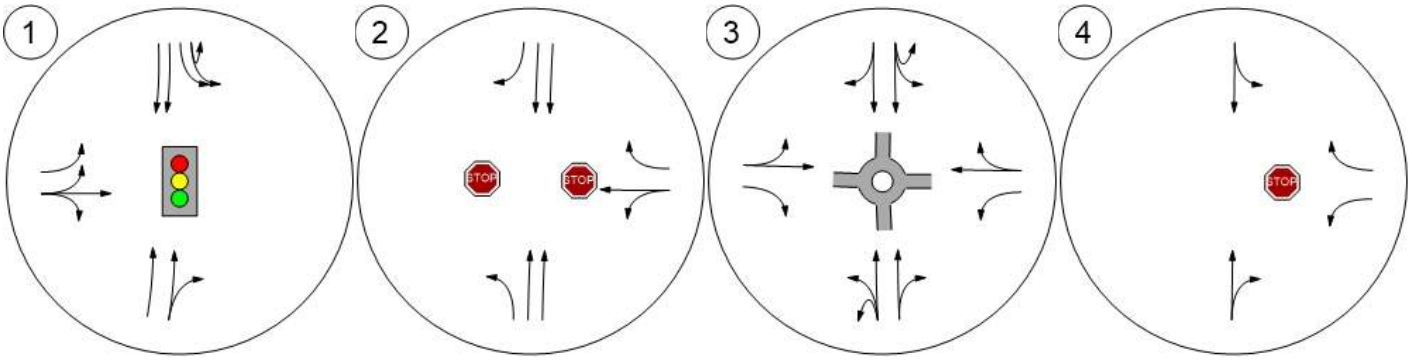
ID	Intersection Name	Volume Type	Southbound		Eastbound		Westbound		Total Volume
			Left	Right	Left	Thru	Thru	Right	
8	Utica Avenue at Frontage Road	Final Base	0	2	0	44	54	0	100
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	62	35	0	97
		Other	0	0	0	0	0	0	0
		Future Total	**0**	**3**	**0**	**129**	**117**	**0**	**249**

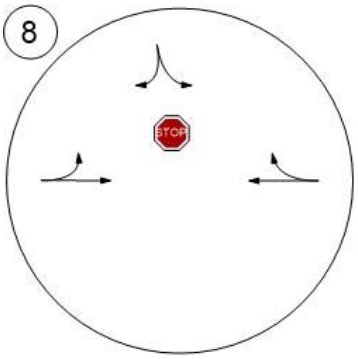
Study Intersections



Lane Configuration and Traffic Control

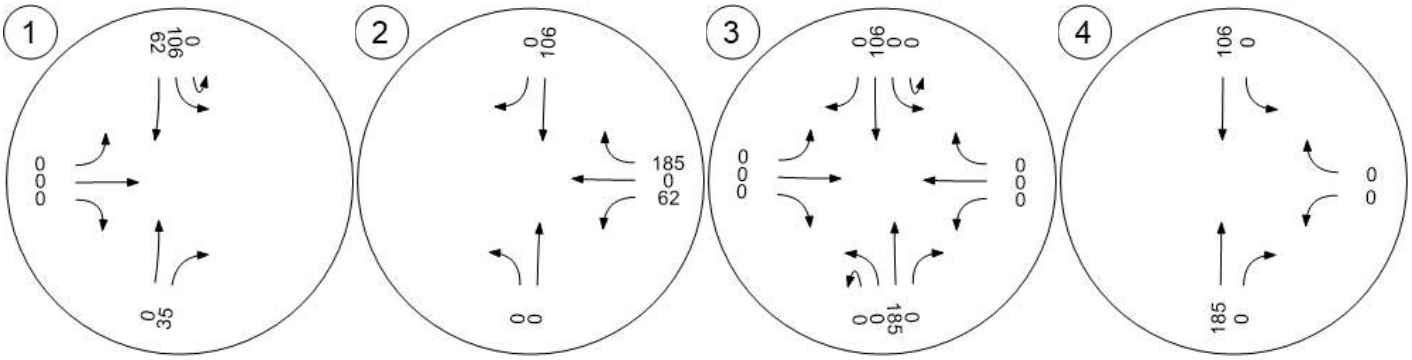


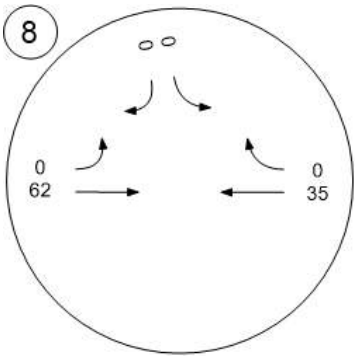




Traffic Volume - Net New Site Trips

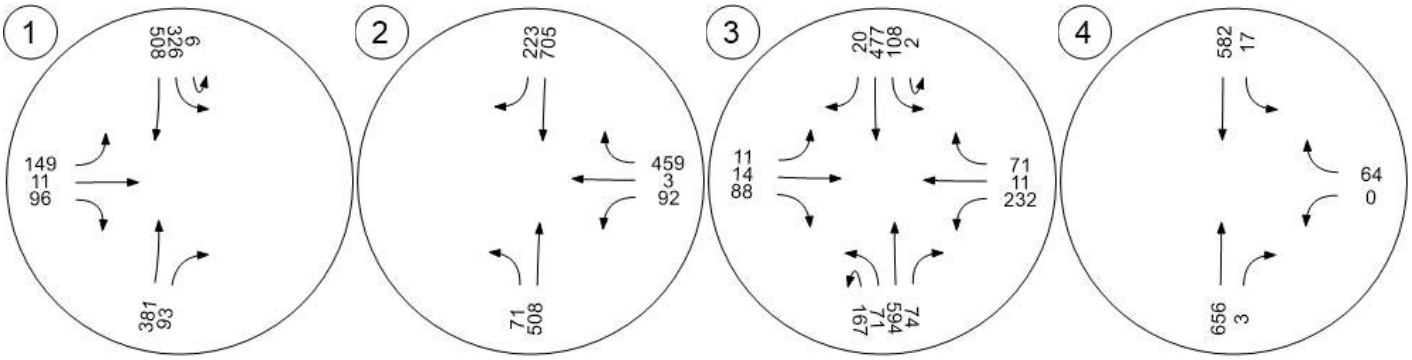


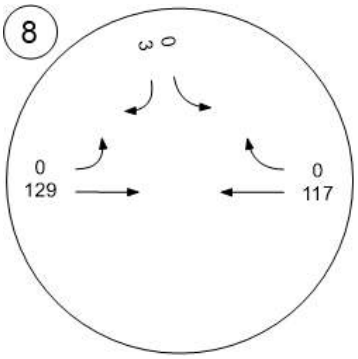




Traffic Volume - Future Total Volume







APPENDIX I: FREEWAY LOS CALCULATION OUTPUTS, 2040 CONDITIONS

HCS7 Basic Freeway Report

Project Information

Analyst	QGW	Date	2/10/2020
Agency		Analysis Year	Future (2040)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	AM Peak Hour
Project Description	I-5 Northbound n SR41	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1182	Heavy Vehicle Adjustment Factor (f_{HV})	0.806
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	797
Total Trucks, %	24.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.33
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.0
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	QGW	Date	2/10/2020
Agency		Analysis Year	Future (2040)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	PM Peak Hour
Project Description	I-5 Northbound n SR41	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1846	Heavy Vehicle Adjustment Factor (f_{HV})	0.826
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1214
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.51
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.1
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	16.8
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Freeway Diverge Report

Project Information			
Analyst	QGW	Date	2/25/2020
Agency		Analysis Year	Future (2040)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	AM Peak Hour
Project Description	I-5 Northbound Off-Ramp at SR-41	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	170
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	Balanced Mix	Balanced Mix
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.950	0.950
Final Capacity Adjustment Factor (CAF)	0.939	0.939
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	1210	135
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	22.00	23.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.820	0.813
Flow Rate (vi),pc/h	1604	180
Capacity (c), pc/h	4507	1878
Volume-to-Capacity Ratio (v/c)	0.36	0.10

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.468
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	57.7
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	78.5
Flow in Lanes 1 and 2 (v12), pc/h	1604	Ramp Junction Speed (S), mi/h	57.7
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	13.9
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	16.5

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HCS7 Freeway Diverge Report

Project Information			
Analyst	QGW	Date	2/25/2020
Agency		Analysis Year	Future (2040)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	FRI Peak Hour
Project Description	I-5 Northbound Off-Ramp at SR-41	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	170
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	Balanced Mix	Balanced Mix
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.950	0.950
Final Capacity Adjustment Factor (CAF)	0.939	0.939
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	2503	297
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	17.00	11.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.855	0.901
Flow Rate (vi),pc/h	3182	358
Capacity (c), pc/h	4507	1878
Volume-to-Capacity Ratio (v/c)	0.71	0.19

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.484
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	57.3
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	78.5
Flow in Lanes 1 and 2 (v12), pc/h	3182	Ramp Junction Speed (S), mi/h	57.3
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	27.8
Level of Service (LOS)	D	Density in Ramp Influence Area (DR), pc/mi/ln	30.1

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HCS7 Freeway Diverge Report

Project Information			
Analyst	QGW	Date	2/25/2020
Agency		Analysis Year	Future (2040)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	PM Peak Hour
Project Description	I-5 Northbound Off-Ramp at SR-41	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	170
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	Balanced Mix	Balanced Mix
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.950	0.950
Final Capacity Adjustment Factor (CAF)	0.939	0.939
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	1818	185
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	21.00	13.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.885
Flow Rate (vi),pc/h	2392	227
Capacity (c), pc/h	4507	1878
Volume-to-Capacity Ratio (v/c)	0.53	0.12

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.472
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	57.6
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	78.5
Flow in Lanes 1 and 2 (v12), pc/h	2392	Ramp Junction Speed (S), mi/h	57.6
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	20.8
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	23.3

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HCS7 Freeway Merge Report

Project Information			
Analyst	QGW	Date	2/19/2020
Agency		Analysis Year	Future (2040)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	AM Peak Hour
Project Description	I-5 Northbound On-Ramp at Utica Avenue	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	570
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Highway/CD Roadway	Right

Adjustment Factors		
Driver Population	Balanced Mix	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.950	1.000
Final Capacity Adjustment Factor (CAF)	0.939	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	1210	26
Peak Hour Factor (PHF)	0.92	0.80
Total Trucks, %	22.00	23.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.820	0.813
Flow Rate (vi),pc/h	1604	40
Capacity (c), pc/h	4132	2000
Volume-to-Capacity Ratio (v/c)	0.40	0.02

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.301
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.7
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	71.6
Flow in Lanes 1 and 2 (v12), pc/h	1604	Ramp Junction Speed (S), mi/h	62.7
Flow Entering Ramp-Infl. Area (vR12), pc/h	1644	Average Density (D), pc/mi/ln	13.1
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	14.8

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HCS7 Freeway Merge Report

Project Information			
Analyst	QGW	Date	2/14/2020
Agency		Analysis Year	Future (2040)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	FRI Peak Hour
Project Description	I-5 Northbound On-Ramp at Utica Avenue	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	570
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Highway/CD Roadway	Right

Adjustment Factors		
Driver Population	Balanced Mix	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.950	1.000
Final Capacity Adjustment Factor (CAF)	0.939	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	2503	156
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	17.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.855	0.980
Flow Rate (vi),pc/h	3182	173
Capacity (c), pc/h	4132	2000
Volume-to-Capacity Ratio (v/c)	0.81	0.09

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.393
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	60.0
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	71.6
Flow in Lanes 1 and 2 (v12), pc/h	3182	Ramp Junction Speed (S), mi/h	60.0
Flow Entering Ramp-Infl. Area (vR12), pc/h	3355	Average Density (D), pc/mi/ln	28.0
Level of Service (LOS)	D	Density in Ramp Influence Area (DR), pc/mi/ln	28.1

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HCS7 Freeway Merge Report

Project Information			
Analyst	QGW	Date	2/19/2020
Agency		Analysis Year	Future (2040)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	pM Peak Hour
Project Description	I-5 Northbound On-Ramp at Utica Avenue	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	570
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Highway/CD Roadway	Right

Adjustment Factors		
Driver Population	Balanced Mix	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.950	1.000
Final Capacity Adjustment Factor (CAF)	0.939	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	1818	47
Peak Hour Factor (PHF)	0.92	0.56
Total Trucks, %	21.00	13.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.826	0.885
Flow Rate (vi),pc/h	2392	95
Capacity (c), pc/h	4132	2000
Volume-to-Capacity Ratio (v/c)	0.60	0.05

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.328
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	61.9
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	71.6
Flow in Lanes 1 and 2 (v12), pc/h	2392	Ramp Junction Speed (S), mi/h	61.9
Flow Entering Ramp-Infl. Area (vR12), pc/h	2487	Average Density (D), pc/mi/ln	20.1
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	21.3

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HCS7 Basic Freeway Report

Project Information

Analyst	QGW	Date	2/10/2020
Agency		Analysis Year	Future (2040)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	Weekday AM Peak Hour
Project Description	I-5 Northbound s/o Utica	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1210	Heavy Vehicle Adjustment Factor (f_{HV})	0.820
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	802
Total Trucks, %	22.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.33
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.1
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	QGW	Date	2/14/2020
Agency		Analysis Year	Future (2040)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	Friday Peak Hour
Project Description	I-5 Northbound s/o Utica	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2503	Heavy Vehicle Adjustment Factor (f_{HV})	0.855
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1591
Total Trucks, %	17.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.66
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	22.9
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	QGW	Date	2/10/2020
Agency		Analysis Year	Future (2040)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	Weekday PM Peak Hour
Project Description	I-5 Northbound s/o Utica	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1818	Heavy Vehicle Adjustment Factor (f_{HV})	0.826
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1196
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.50
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.1
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	16.6
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	QGW	Date	2/10/2020
Agency		Analysis Year	Future (2040)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	AM Peak Hour
Project Description	I-5 Northbound Utica to SR41	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1210	Heavy Vehicle Adjustment Factor (f_{HV})	0.820
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	802
Total Trucks, %	22.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.33
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.1
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	QGW	Date	2/14/2020
Agency		Analysis Year	Future (2040)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	PM Peak Hour
Project Description	I-5 Northbound Utica to SR41	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2503	Heavy Vehicle Adjustment Factor (f_{HV})	0.855
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1591
Total Trucks, %	17.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.66
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	22.9
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	QGW	Date	2/10/2020
Agency		Analysis Year	Future (2040)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	PM Peak Hour
Project Description	I-5 Northbound Utica to SR41	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1818	Heavy Vehicle Adjustment Factor (f_{HV})	0.826
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1196
Total Trucks, %	21.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.50
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.1
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	16.6
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	QGW	Date	2/10/2020
Agency		Analysis Year	Future (2040)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	AM Peak Hour
Project Description	I-5 Northbound n SR41	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1361	Heavy Vehicle Adjustment Factor (f_{HV})	0.813
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	910
Total Trucks, %	23.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.38
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.6
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	QGW	Date	2/14/2020
Agency		Analysis Year	Future (2040)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	FRI Peak Hour
Project Description	I-5 Southbound n SR41	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2668	Heavy Vehicle Adjustment Factor (f_{HV})	0.862
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1682
Total Trucks, %	16.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.70
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.5
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	24.6
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	QGW	Date	2/10/2020
Agency		Analysis Year	Future (2040)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	PM Peak Hour
Project Description	I-5 Southbound n SR41	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1798	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1173
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.49
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	16.2
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Freeway Diverge Report

Project Information			
Analyst	QGW	Date	2/19/2020
Agency		Analysis Year	Future (2040)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	AM Peak Hour
Project Description	I-5 Southbound Off-Ramp	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	170
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Highway/CD Roadway	Right

Adjustment Factors		
Driver Population	Balanced Mix	Balanced Mix
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.950	0.950
Final Capacity Adjustment Factor (CAF)	0.939	0.939
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	1325	21
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	24.00	23.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.806	0.813
Flow Rate (vi),pc/h	1787	28
Capacity (c), pc/h	4132	1878
Volume-to-Capacity Ratio (v/c)	0.43	0.01

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.454
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	58.2
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	78.5
Flow in Lanes 1 and 2 (v12), pc/h	1787	Ramp Junction Speed (S), mi/h	58.2
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	15.4
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	18.1

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HCS7 Freeway Diverge Report

Project Information			
Analyst	QGW	Date	2/14/2020
Agency		Analysis Year	Future (2040)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	FRI Peak Hour
Project Description	I-5 Southbound Off-Ramp	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	170
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	Balanced Mix	Balanced Mix
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.950	0.950
Final Capacity Adjustment Factor (CAF)	0.939	0.939
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	2635	21
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	17.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.855	0.980
Flow Rate (vi),pc/h	3350	23
Capacity (c), pc/h	4507	1878
Volume-to-Capacity Ratio (v/c)	0.74	0.01

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.453
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	58.2
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	78.5
Flow in Lanes 1 and 2 (v12), pc/h	3350	Ramp Junction Speed (S), mi/h	58.2
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	28.8
Level of Service (LOS)	D	Density in Ramp Influence Area (DR), pc/mi/ln	31.5

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HCS7 Freeway Diverge Report

Project Information			
Analyst	QGW	Date	2/19/2020
Agency		Analysis Year	Future (2040)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	PM Peak Hour
Project Description	I-5 Southbound Off-Ramp	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	170
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	Balanced Mix	Balanced Mix
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.950	0.950
Final Capacity Adjustment Factor (CAF)	0.939	0.939
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	1824	6
Peak Hour Factor (PHF)	0.92	0.80
Total Trucks, %	20.00	13.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.885
Flow Rate (vi),pc/h	2380	8
Capacity (c), pc/h	4507	1878
Volume-to-Capacity Ratio (v/c)	0.53	0.00

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (DS)	0.452
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	Off-Ramp Influence Area Speed (SR), mi/h	58.2
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	1.000	Outer Lanes Freeway Speed (SO), mi/h	78.5
Flow in Lanes 1 and 2 (v12), pc/h	2380	Ramp Junction Speed (S), mi/h	58.2
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	20.4
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	23.2

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HCS7 Freeway Merge Report

Project Information			
Analyst	QGW	Date	2/25/2020
Agency		Analysis Year	Future (2040)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	AM Peak Hour
Project Description	I-5 Southbound On-Ramp	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	Balanced Mix	Balanced Mix
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.950	0.950
Final Capacity Adjustment Factor (CAF)	0.939	0.939
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	1325	135
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	24.00	23.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.806	0.813
Flow Rate (vi),pc/h	1787	180
Capacity (c), pc/h	4507	1878
Volume-to-Capacity Ratio (v/c)	0.44	0.10

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.316
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	62.2
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	71.6
Flow in Lanes 1 and 2 (v12), pc/h	1787	Ramp Junction Speed (S), mi/h	62.2
Flow Entering Ramp-Infl. Area (vR12), pc/h	1967	Average Density (D), pc/mi/ln	15.8
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	17.7

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HCS7 Freeway Merge Report

Project Information			
Analyst	QGW	Date	2/25/2020
Agency		Analysis Year	Near Term (2023)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	FRI Peak Hour
Project Description	I-5 Southbound On-Ramp	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	Balanced Mix	Balanced Mix
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.950	0.950
Final Capacity Adjustment Factor (CAF)	0.939	0.939
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	2635	255
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	17.00	11.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.855	0.901
Flow Rate (vi),pc/h	3350	308
Capacity (c), pc/h	4507	1878
Volume-to-Capacity Ratio (v/c)	0.81	0.16

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.439
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	58.6
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	71.6
Flow in Lanes 1 and 2 (v12), pc/h	3350	Ramp Junction Speed (S), mi/h	58.6
Flow Entering Ramp-Infl. Area (vR12), pc/h	3658	Average Density (D), pc/mi/ln	31.2
Level of Service (LOS)	D	Density in Ramp Influence Area (DR), pc/mi/ln	30.8

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HCS7 Freeway Merge Report

Project Information			
Analyst	QGW	Date	2/25/2020
Agency		Analysis Year	Future (2040)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	PM Peak Hour
Project Description	I-5 Southbound On-Ramp	Unit	United States Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	75.4	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	Balanced Mix	Balanced Mix
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	0.950	0.950
Final Capacity Adjustment Factor (CAF)	0.939	0.939
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Demand Volume (Vi)	1824	170
Peak Hour Factor (PHF)	0.92	0.92
Total Trucks, %	20.00	13.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.833	0.885
Flow Rate (vi),pc/h	2380	209
Capacity (c), pc/h	4507	1878
Volume-to-Capacity Ratio (v/c)	0.57	0.11

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.340
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	61.5
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	71.6
Flow in Lanes 1 and 2 (v12), pc/h	2380	Ramp Junction Speed (S), mi/h	61.5
Flow Entering Ramp-Infl. Area (vR12), pc/h	2589	Average Density (D), pc/mi/ln	21.0
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	22.5

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HCS7 Basic Freeway Report

Project Information

Analyst	QGW	Date	2/10/2020
Agency		Analysis Year	Future (2040)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	AM Peak Hour
Project Description	I-5 Southbound Utica to SR41	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1325	Heavy Vehicle Adjustment Factor (f_{HV})	0.806
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	894
Total Trucks, %	24.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.37
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.4
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	QGW	Date	2/14/2020
Agency		Analysis Year	Future (2040)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	PM Peak Hour
Project Description	I-5 Southbound Utica to SR41	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2635	Heavy Vehicle Adjustment Factor (f_{HV})	0.855
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1675
Total Trucks, %	17.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.70
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	24.4
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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HCS7 Basic Freeway Report

Project Information

Analyst	QGW	Date	2/10/2020
Agency		Analysis Year	Future (2040)
Jurisdiction	Caltrans District 6/Kings County	Time Period Analyzed	AM Peak Hour
Project Description	I-5 Southbound Utica to SR41	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	1.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	72.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	Balanced Mix	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1824	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1190
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.50
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.1
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	16.5
Total Ramp Density Adjustment	3.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	72.2		

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APPENDIX J: SIGNAL WARRANT CALCULATIONS

KITTELSON & ASSOCIATES, INC.
610 SW Alder, Suite 700
Portland, Oregon 97205
(503) 228-5230

Project #: 24908
Project Name: Kings County Jackson Ranch TIA
Analyst: MZS
Date: 3/9/2020
File: H:\24\24908 - Kings County Jackson Ranch TIA\analysis\Signal Warrants\2040 Plus Project\[24908_Signal Warrant
Intersection: 2. Northbound I-5 at SR-41 Ramps
Scenario: 2040 Plus Project AM

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
7:30 AM	8:30 AM	276	577	0	72
2nd Highest Hour		276	577	0	69
3rd Highest Hour		249	521	0	67
4th Highest Hour		239	501	0	60
5th Highest Hour		213	445	0	56
6th Highest Hour		206	431	0	54
7th Highest Hour		196	410	0	54
8th Highest Hour		190	396	0	52
9th Highest Hour		180	375	0	50
10th Highest Hour		176	368	0	50
11th Highest Hour		170	355	0	49
12th Highest Hour		166	348	0	48
13th Highest Hour		160	334	0	41
14th Highest Hour		143	299	0	32
15th Highest Hour		113	236	0	31
16th Highest Hour		100	209	0	28
17th Highest Hour		76	160	0	22
18th Highest Hour		63	132	0	16
19th Highest Hour		53	111	0	14
20th Highest Hour		30	63	0	10
21st Highest Hour		20	42	0	7
22nd Highest Hour		17	35	0	7
23rd Highest Hour		10	21	0	5
24th Highest Hour		10	21	0	5

Warrant Summary

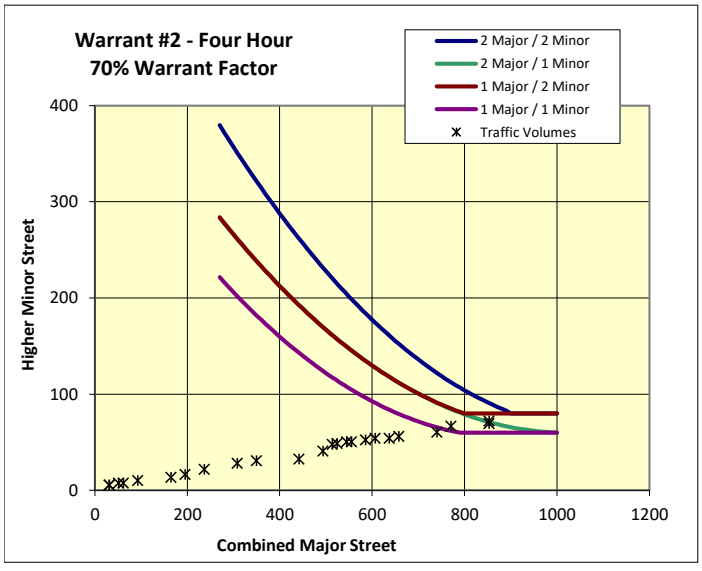
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

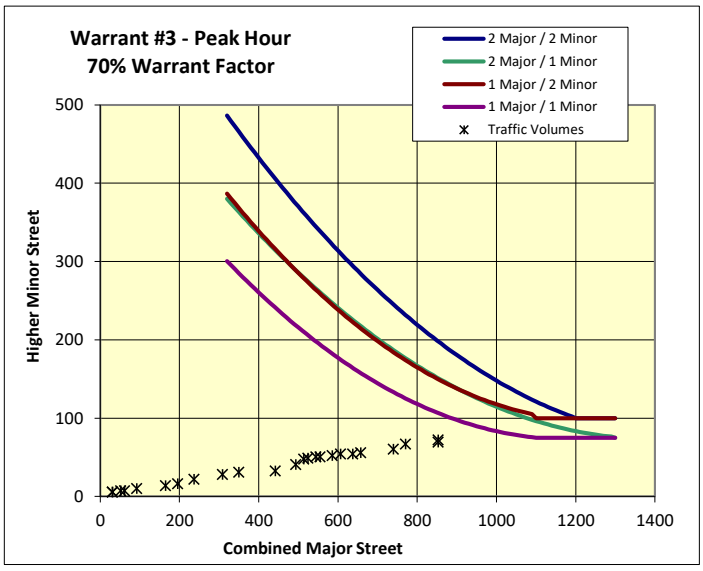
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	2
Minor Street Thru Lanes =	1
Speed > 40 mph?	Yes
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	87%
Major Street: 8th-Highest Hour / Peak Hour	69%
Minor Street: 4th-Highest Hour / Peak Hour	84%
Minor Street: 8th-Highest Hour / Peak Hour	73%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	600	150	0	No	**No**
	B	900	75	0	No	
80%	A	480	120	0	No	**No**
	B	720	60	4	No	
70%	A	420	105	0	No	**No**
	B	630	53	6	No	
56%	A	336	84	0	No	**Yes**
	B	504	42	12	Yes	





KITTELSON & ASSOCIATES, INC.
610 SW Alder, Suite 700
Portland, Oregon 97205
(503) 228-5230

Project #: 24908
Project Name: Kings County Jackson Ranch TIA
Analyst: MZS
Date: 3/9/2020
File: H:\24\24908 - Kings County Jackson Ranch TIA\analysis\Signal Warrants\2040 Plus Project\[24908_Signal Warrant
Intersection: 2. Northbound I-5 at SR-41 Ramps
Scenario: 2040 Plus Project Fri

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
2:00 PM	3:00 PM	610	977	0	100
2nd Highest Hour		610	977	0	96
3rd Highest Hour		551	883	0	93
4th Highest Hour		529	848	0	84
5th Highest Hour		470	753	0	78
6th Highest Hour		456	730	0	75
7th Highest Hour		434	694	0	75
8th Highest Hour		419	671	0	73
9th Highest Hour		397	636	0	70
10th Highest Hour		390	624	0	70
11th Highest Hour		375	600	0	68
12th Highest Hour		367	589	0	66
13th Highest Hour		353	565	0	56
14th Highest Hour		316	506	0	45
15th Highest Hour		250	400	0	43
16th Highest Hour		220	353	0	39
17th Highest Hour		169	271	0	30
18th Highest Hour		140	224	0	23
19th Highest Hour		118	188	0	19
20th Highest Hour		66	106	0	14
21st Highest Hour		44	71	0	10
22nd Highest Hour		37	59	0	10
23rd Highest Hour		22	35	0	8
24th Highest Hour		22	35	0	8

Warrant Summary

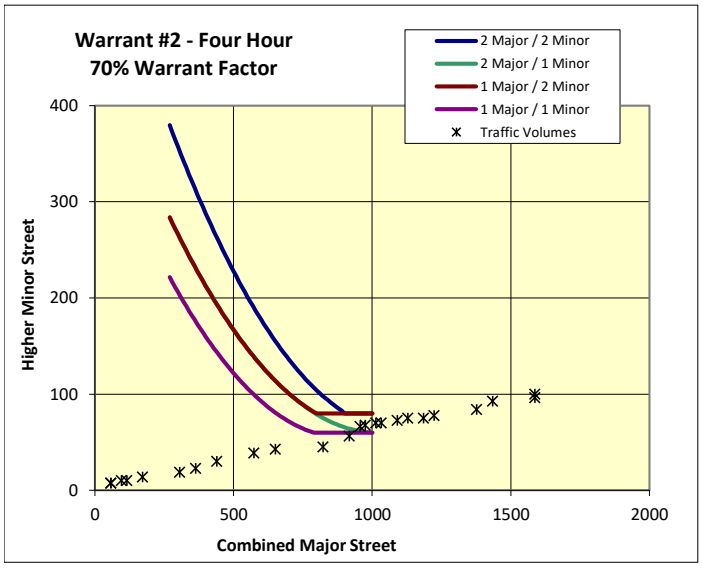
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	Yes
#2	Four-Hour Vehicular volume	Yes	Yes
#3	Peak Hour	Yes	Yes
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

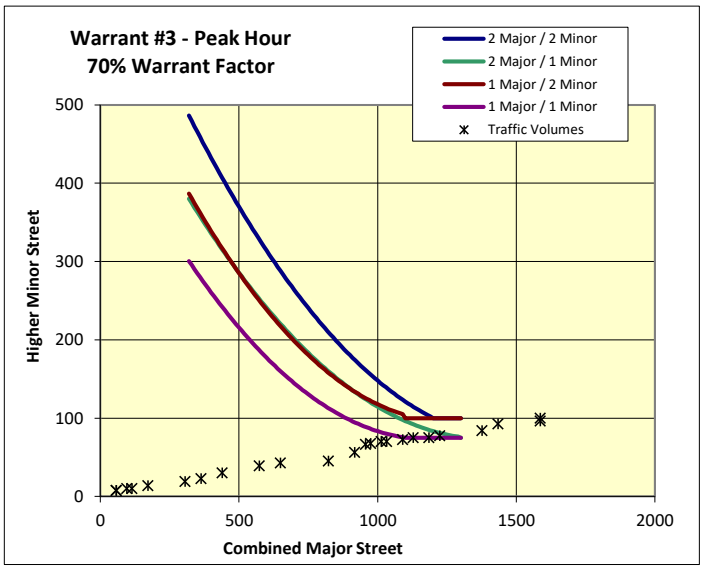
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	2
Minor Street Thru Lanes =	1
Speed > 40 mph?	Yes
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	87%
Major Street: 8th-Highest Hour / Peak Hour	69%
Minor Street: 4th-Highest Hour / Peak Hour	84%
Minor Street: 8th-Highest Hour / Peak Hour	73%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	600	150	0	No	**No**
	B	900	75	7	No	
80%	A	480	120	0	No	**Yes**
	B	720	60	12	Yes	
70%	A	420	105	0	No	**Yes**
	B	630	53	13	Yes	
56%	A	336	84	4	No	**Yes**
	B	504	42	15	Yes	





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610 SW Alder, Suite 700
Portland, Oregon 97205
(503) 228-5230

Project #: 24908
Project Name: Kings County Jackson Ranch TIA
Analyst: MZS
Date: 3/9/2020
File: H:\24\24908 - Kings County Jackson Ranch TIA\analysis\Signal Warrants\2040 Plus Project\[24908_Signal Warrant
Intersection: 2. Northbound I-5 at SR-41 Ramps
Scenario: 2040 Plus Project PM

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
4:00 PM	5:00 PM	433	638	0	66
2nd Highest Hour		433	638	0	64
3rd Highest Hour		391	577	0	61
4th Highest Hour		376	553	0	55
5th Highest Hour		334	492	0	51
6th Highest Hour		323	477	0	50
7th Highest Hour		308	454	0	50
8th Highest Hour		297	438	0	48
9th Highest Hour		282	415	0	46
10th Highest Hour		276	407	0	46
11th Highest Hour		266	392	0	45
12th Highest Hour		261	384	0	44
13th Highest Hour		250	369	0	37
14th Highest Hour		224	331	0	30
15th Highest Hour		177	261	0	28
16th Highest Hour		157	231	0	26
17th Highest Hour		120	177	0	20
18th Highest Hour		99	146	0	15
19th Highest Hour		83	123	0	12
20th Highest Hour		47	69	0	9
21st Highest Hour		31	46	0	7
22nd Highest Hour		26	38	0	7
23rd Highest Hour		16	23	0	5
24th Highest Hour		16	23	0	5

Warrant Summary

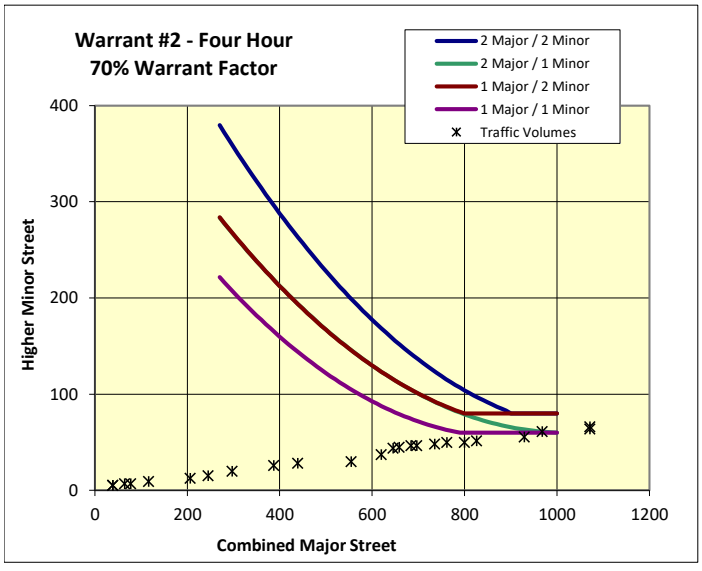
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

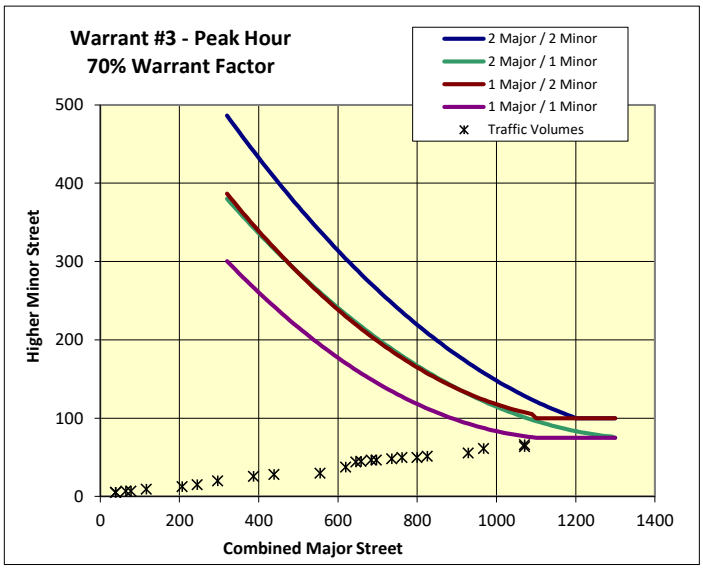
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	2
Minor Street Thru Lanes =	1
Speed > 40 mph?	Yes
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	87%
Major Street: 8th-Highest Hour / Peak Hour	69%
Minor Street: 4th-Highest Hour / Peak Hour	84%
Minor Street: 8th-Highest Hour / Peak Hour	73%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	600	150	0	No	**No**
	B	900	75	0	No	
80%	A	480	120	0	No	**No**
	B	720	60	3	No	
70%	A	420	105	0	No	**No**
	B	630	53	4	No	
56%	A	336	84	0	No	**Yes**
	B	504	42	12	Yes	





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(503) 228-5230

Project #: 24908
Project Name: Kings County Jackson Ranch TIA
Analyst: MZS
Date: 3/9/2020
File: H:\24\24908 - Kings County Jackson Ranch TIA\analysis\Signal Warrants\Near Term Plus Project\[24908_Signal Warrant
Intersection: 2. Northbound I-5 at SR-41 Ramps
Scenario: Near Term Plus Project AM

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
7:30 AM	8:30 AM	196	340	0	51
2nd Highest Hour		196	340	0	49
3rd Highest Hour		177	307	0	47
4th Highest Hour		170	295	0	43
5th Highest Hour		151	262	0	40
6th Highest Hour		146	254	0	38
7th Highest Hour		139	242	0	38
8th Highest Hour		135	233	0	37
9th Highest Hour		128	221	0	36
10th Highest Hour		125	217	0	36
11th Highest Hour		120	209	0	34
12th Highest Hour		118	205	0	34
13th Highest Hour		113	197	0	29
14th Highest Hour		102	176	0	23
15th Highest Hour		80	139	0	22
16th Highest Hour		71	123	0	20
17th Highest Hour		54	94	0	15
18th Highest Hour		45	78	0	11
19th Highest Hour		38	66	0	10
20th Highest Hour		21	37	0	7
21st Highest Hour		14	25	0	5
22nd Highest Hour		12	20	0	5
23rd Highest Hour		7	12	0	4
24th Highest Hour		7	12	0	4

Warrant Summary

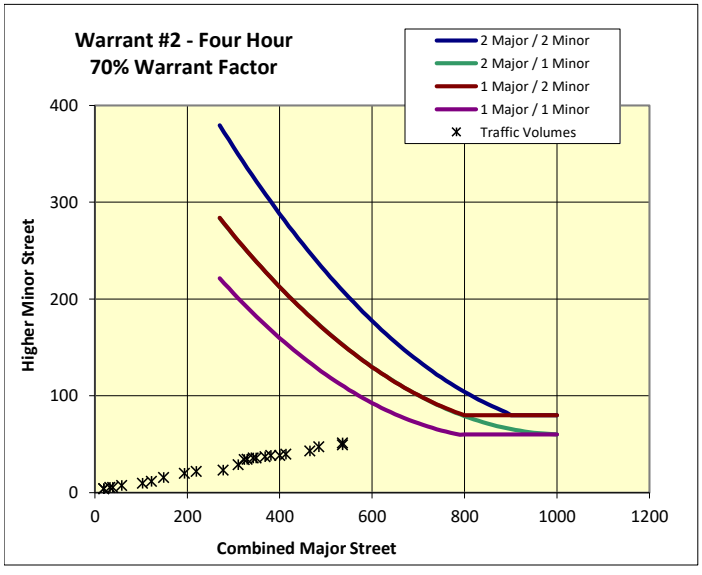
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

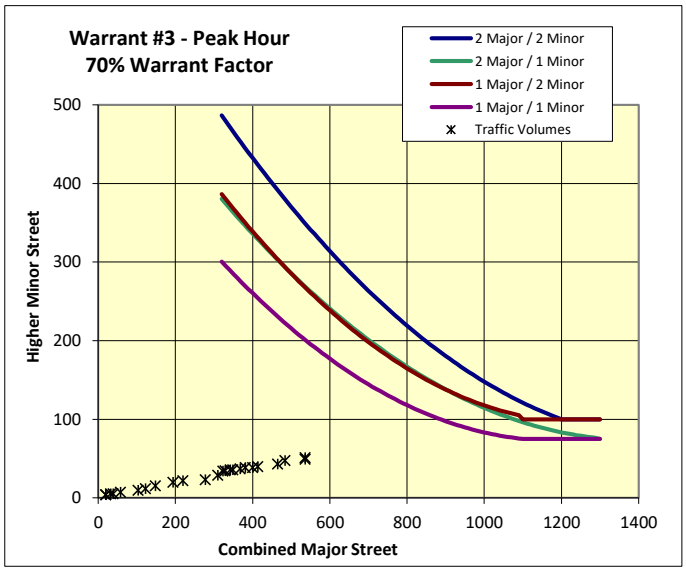
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	2
Minor Street Thru Lanes =	1
Speed > 40 mph?	Yes
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	87%
Major Street: 8th-Highest Hour / Peak Hour	69%
Minor Street: 4th-Highest Hour / Peak Hour	84%
Minor Street: 8th-Highest Hour / Peak Hour	73%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	600	150	0	No	**No**
	B	900	75	0	No	
80%	A	480	120	0	No	**No**
	B	720	60	0	No	
70%	A	420	105	0	No	**No**
	B	630	53	0	No	
56%	A	336	84	0	No	**No**
	B	504	42	2	No	





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610 SW Alder, Suite 700
Portland, Oregon 97205
(503) 228-5230

Project #: 24908
Project Name: Kings County Jackson Ranch TIA
Analyst: MZS
Date: 3/9/2020
File: H:\24\24908 - Kings County Jackson Ranch TIA\analysis\Signal Warrants\Near Term Plus Project\[24908_Signal Warrant
Intersection: 2. Northbound I-5 at SR-41 Ramps
Scenario: Near Term Plus Project Fri

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
2:00 PM	3:00 PM	435	701	0	51
2nd Highest Hour		435	701	0	49
3rd Highest Hour		393	633	0	47
4th Highest Hour		377	608	0	43
5th Highest Hour		335	541	0	40
6th Highest Hour		325	524	0	38
7th Highest Hour		309	498	0	38
8th Highest Hour		299	481	0	37
9th Highest Hour		283	456	0	36
10th Highest Hour		278	448	0	36
11th Highest Hour		267	431	0	34
12th Highest Hour		262	422	0	34
13th Highest Hour		252	405	0	29
14th Highest Hour		225	363	0	23
15th Highest Hour		178	287	0	22
16th Highest Hour		157	253	0	20
17th Highest Hour		121	194	0	15
18th Highest Hour		100	160	0	11
19th Highest Hour		84	135	0	10
20th Highest Hour		47	76	0	7
21st Highest Hour		31	51	0	5
22nd Highest Hour		26	42	0	5
23rd Highest Hour		16	25	0	4
24th Highest Hour		16	25	0	4

Warrant Summary

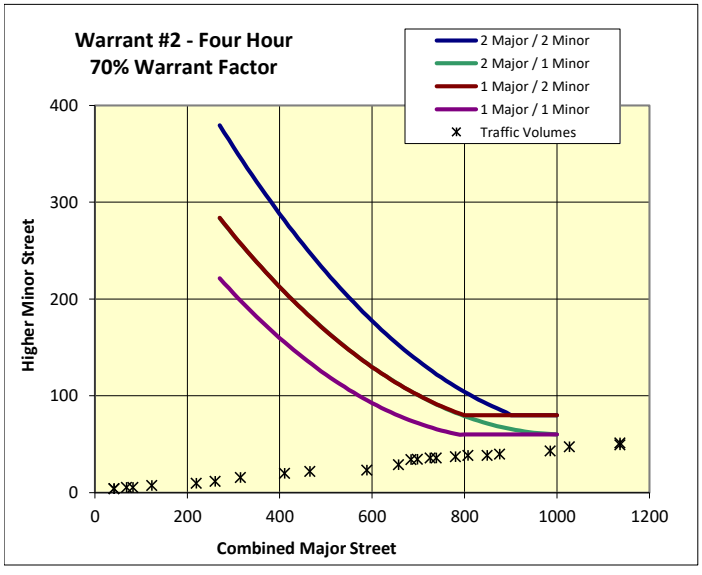
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

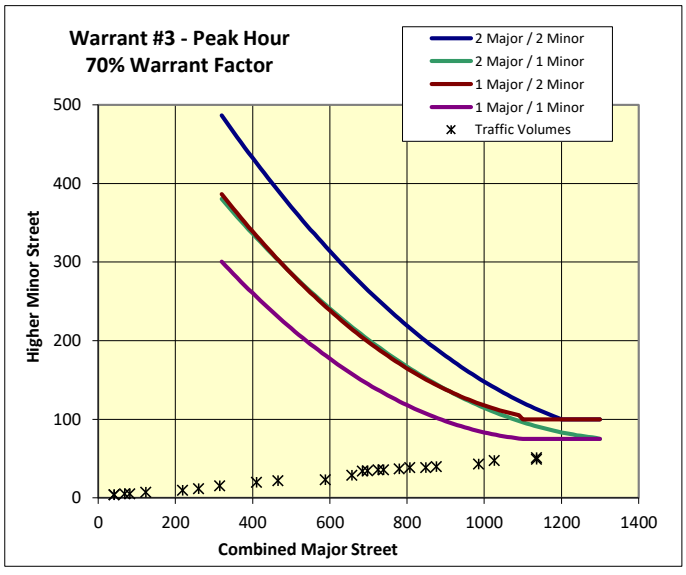
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	2
Minor Street Thru Lanes =	1
Speed > 40 mph?	Yes
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	87%
Major Street: 8th-Highest Hour / Peak Hour	69%
Minor Street: 4th-Highest Hour / Peak Hour	84%
Minor Street: 8th-Highest Hour / Peak Hour	73%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	600	150	0	No	**No**
	B	900	75	0	No	
80%	A	480	120	0	No	**No**
	B	720	60	0	No	
70%	A	420	105	0	No	**No**
	B	630	53	0	No	
56%	A	336	84	0	No	**No**
	B	504	42	4	No	





KITTELSON & ASSOCIATES, INC.
610 SW Alder, Suite 700
Portland, Oregon 97205
(503) 228-5230

Project #: 24908
Project Name: Kings County Jackson Ranch TIA
Analyst: MZS
Date: 3/9/2020
File: H:\24\24908 - Kings County Jackson Ranch TIA\analysis\Signal Warrants\Near Term Plus Project\[24908_Signal Warrant
Intersection: 2. Northbound I-5 at SR-41 Ramps
Scenario: Near Term Plus Project PM

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
4:00 PM	5:00 PM	308	456	0	25
2nd Highest Hour		308	456	0	24
3rd Highest Hour		278	412	0	23
4th Highest Hour		267	396	0	21
5th Highest Hour		237	352	0	19
6th Highest Hour		230	341	0	19
7th Highest Hour		219	324	0	19
8th Highest Hour		212	313	0	18
9th Highest Hour		200	297	0	18
10th Highest Hour		197	291	0	18
11th Highest Hour		189	280	0	17
12th Highest Hour		186	275	0	17
13th Highest Hour		178	264	0	14
14th Highest Hour		160	236	0	11
15th Highest Hour		126	187	0	11
16th Highest Hour		111	165	0	10
17th Highest Hour		85	126	0	8
18th Highest Hour		71	104	0	6
19th Highest Hour		59	88	0	5
20th Highest Hour		33	49	0	3
21st Highest Hour		22	33	0	3
22nd Highest Hour		19	27	0	3
23rd Highest Hour		11	16	0	2
24th Highest Hour		11	16	0	2

Warrant Summary

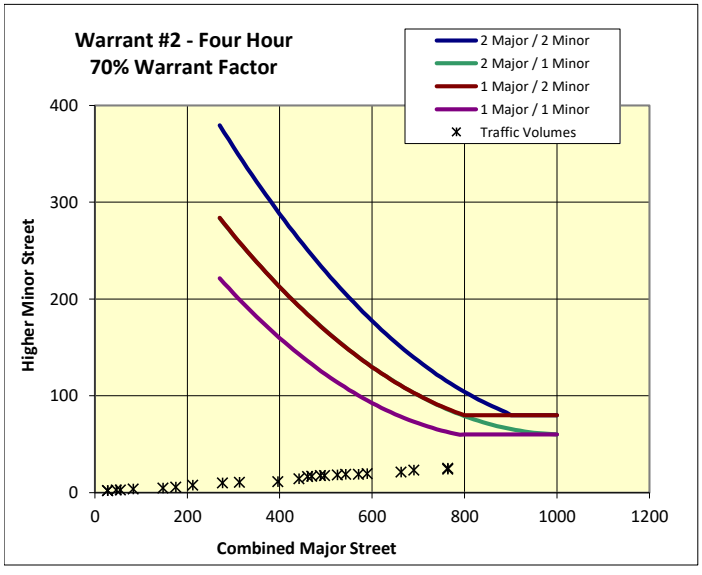
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

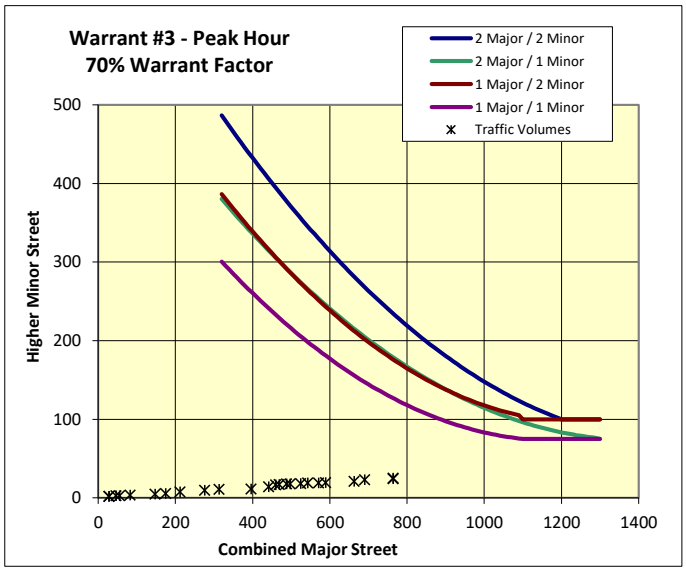
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	2
Minor Street Thru Lanes =	1
Speed > 40 mph?	Yes
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	87%
Major Street: 8th-Highest Hour / Peak Hour	69%
Minor Street: 4th-Highest Hour / Peak Hour	84%
Minor Street: 8th-Highest Hour / Peak Hour	73%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	600	150	0	No	**No**
	B	900	75	0	No	
80%	A	480	120	0	No	**No**
	B	720	60	0	No	
70%	A	420	105	0	No	**No**
	B	630	53	0	No	
56%	A	336	84	0	No	**No**
	B	504	42	0	No	





KITTELSON & ASSOCIATES, INC.
610 SW Alder, Suite 700
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Project #: 24908
Project Name: Kings County Jackson Ranch TIA
Analyst: MZS
Date: 3/9/2020
File: H:\24\24908 - Kings County Jackson Ranch TIA\analysis\Signal Warrants\2040 Plus Project\[24908 Signal Warrant
Intersection: 4. 25th Avenue at SR-41
Scenario: 2040 Plus Project AM

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
7:00 AM	8:00 AM	263	480	0	50
2nd Highest Hour		263	480	0	40
3rd Highest Hour		238	434	0	37
4th Highest Hour		228	416	0	33
5th Highest Hour		203	370	0	31
6th Highest Hour		196	359	0	29
7th Highest Hour		187	341	0	28
8th Highest Hour		181	330	0	26
9th Highest Hour		171	312	0	26
10th Highest Hour		168	307	0	26
11th Highest Hour		162	295	0	23
12th Highest Hour		158	289	0	22
13th Highest Hour		152	278	0	18
14th Highest Hour		136	249	0	17
15th Highest Hour		108	197	0	16
16th Highest Hour		95	173	0	16
17th Highest Hour		73	133	0	9
18th Highest Hour		60	110	0	9
19th Highest Hour		51	93	0	4
20th Highest Hour		29	52	0	3
21st Highest Hour		19	35	0	2
22nd Highest Hour		16	29	0	0
23rd Highest Hour		10	17	0	0
24th Highest Hour		10	17	0	0

Warrant Summary

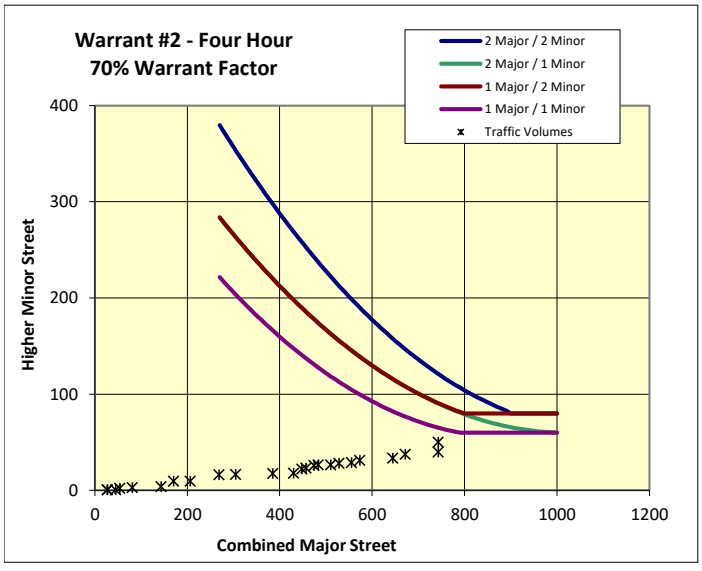
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

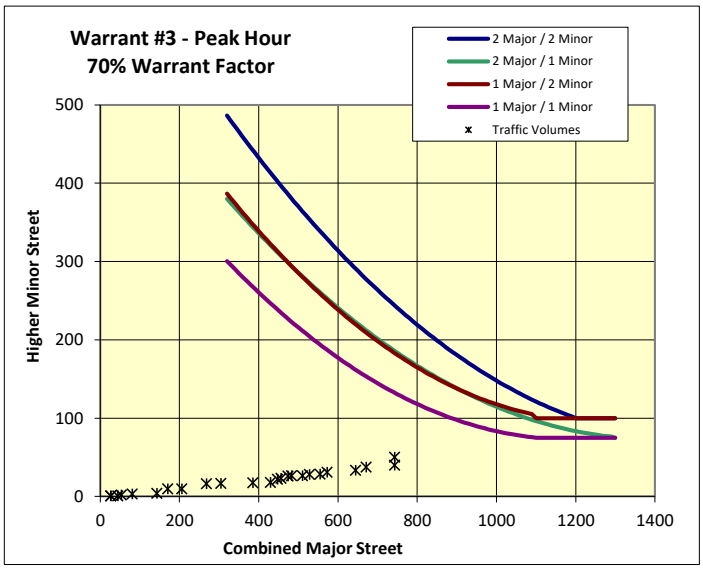
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	Yes
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	87%
Major Street: 8th-Highest Hour / Peak Hour	69%
Minor Street: 4th-Highest Hour / Peak Hour	66%
Minor Street: 8th-Highest Hour / Peak Hour	52%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	0	No	**No**
	B	600	60	0	No	
70%	A	350	105	0	No	**No**
	B	525	53	0	No	
56%	A	280	84	0	No	**No**
	B	420	42	1	No	





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Project #: 24908
Project Name: Kings County Jackson Ranch TIA
Analyst: MZS
Date: 3/9/2020
File: H:\24\24908 - Kings County Jackson Ranch TIA\analysis\Signal Warrants\2040 Plus Project\[24908 Signal Warrant
Intersection: 4. 25th Avenue at SR-41
Scenario: 2040 Plus Project Fri

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
4:00 PM	5:00 PM	694	631	0	67
2nd Highest Hour		694	631	0	53
3rd Highest Hour		627	570	0	50
4th Highest Hour		602	547	0	44
5th Highest Hour		535	487	0	41
6th Highest Hour		518	471	0	38
7th Highest Hour		493	449	0	38
8th Highest Hour		477	433	0	35
9th Highest Hour		452	411	0	35
10th Highest Hour		443	403	0	34
11th Highest Hour		426	388	0	31
12th Highest Hour		418	380	0	29
13th Highest Hour		401	365	0	24
14th Highest Hour		360	327	0	23
15th Highest Hour		284	258	0	22
16th Highest Hour		251	228	0	21
17th Highest Hour		192	175	0	13
18th Highest Hour		159	144	0	13
19th Highest Hour		134	122	0	5
20th Highest Hour		75	68	0	4
21st Highest Hour		50	46	0	3
22nd Highest Hour		42	38	0	1
23rd Highest Hour		25	23	0	1
24th Highest Hour		25	23	0	1

Warrant Summary

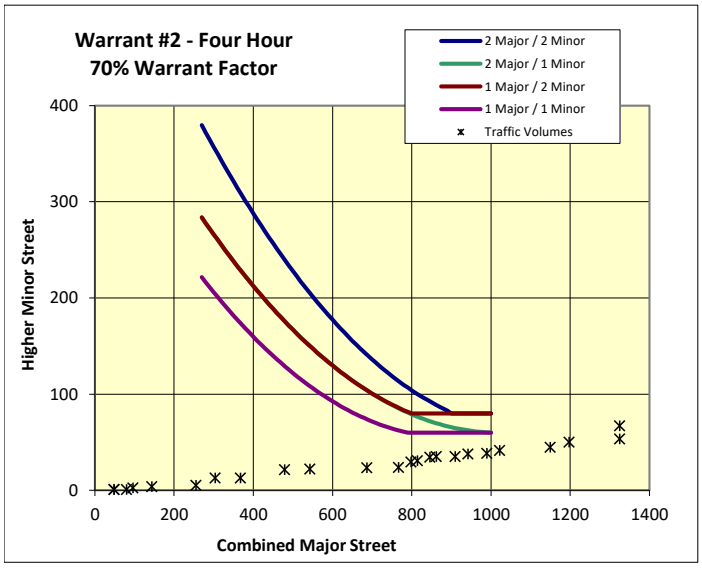
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

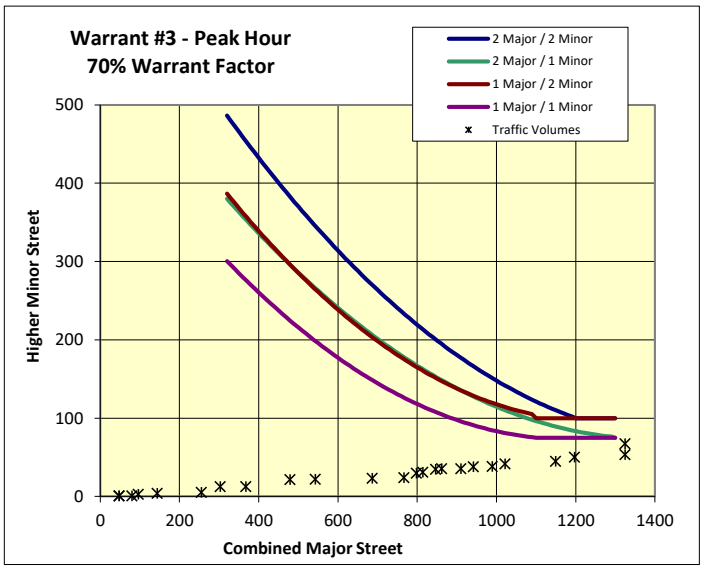
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	Yes
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	87%
Major Street: 8th-Highest Hour / Peak Hour	69%
Minor Street: 4th-Highest Hour / Peak Hour	66%
Minor Street: 8th-Highest Hour / Peak Hour	52%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	0	No	**No**
	B	600	60	1	No	
70%	A	350	105	0	No	**No**
	B	525	53	2	No	
56%	A	280	84	0	No	**No**
	B	420	42	5	No	





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610 SW Alder, Suite 700
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Project #: 24908
Project Name: Kings County Jackson Ranch TIA
Analyst: MZS
Date: 3/9/2020
File: H:\24\24908 - Kings County Jackson Ranch TIA\analysis\Signal Warrants\2040 Plus Project\[24908 Signal Warrant
Intersection: 4. 25th Avenue at SR-41
Scenario: 2040 Plus Project PM

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
4:00 PM	5:00 PM	566	415	0	24
2nd Highest Hour		566	415	0	19
3rd Highest Hour		511	375	0	18
4th Highest Hour		491	360	0	16
5th Highest Hour		436	320	0	15
6th Highest Hour		423	310	0	14
7th Highest Hour		402	295	0	13
8th Highest Hour		389	285	0	13
9th Highest Hour		368	270	0	13
10th Highest Hour		361	265	0	12
11th Highest Hour		348	255	0	11
12th Highest Hour		341	250	0	11
13th Highest Hour		327	240	0	9
14th Highest Hour		293	215	0	8
15th Highest Hour		232	170	0	8
16th Highest Hour		205	150	0	8
17th Highest Hour		157	115	0	4
18th Highest Hour		130	95	0	4
19th Highest Hour		109	80	0	2
20th Highest Hour		61	45	0	1
21st Highest Hour		41	30	0	1
22nd Highest Hour		34	25	0	0
23rd Highest Hour		20	15	0	0
24th Highest Hour		20	15	0	0

Warrant Summary

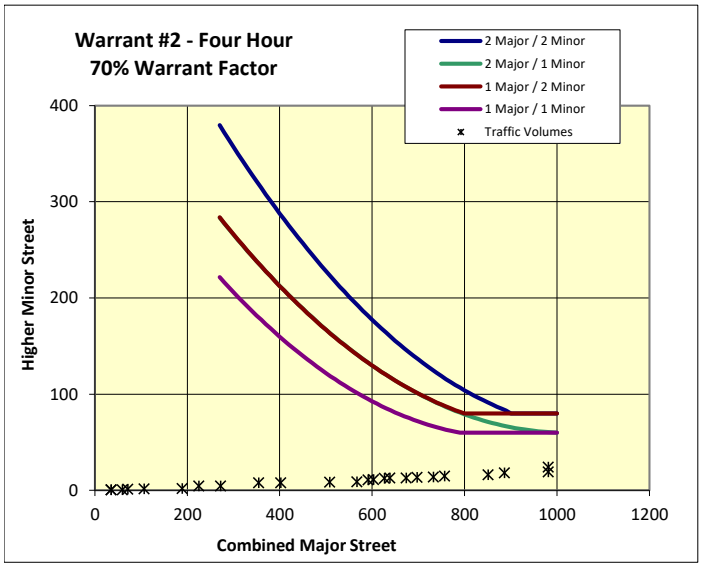
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

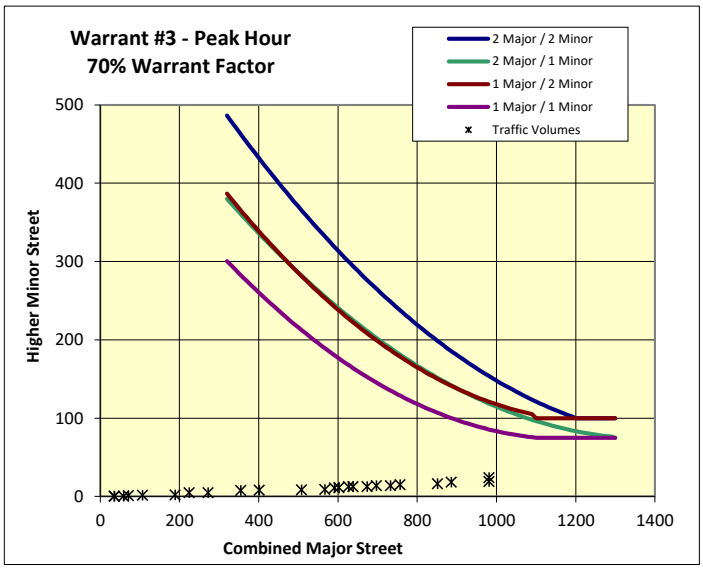
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	Yes
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	87%
Major Street: 8th-Highest Hour / Peak Hour	69%
Minor Street: 4th-Highest Hour / Peak Hour	66%
Minor Street: 8th-Highest Hour / Peak Hour	52%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	0	No	**No**
	B	600	60	0	No	
70%	A	350	105	0	No	**No**
	B	525	53	0	No	
56%	A	280	84	0	No	**No**
	B	420	42	0	No	





KITTELSON & ASSOCIATES, INC.
610 SW Alder, Suite 700
Portland, Oregon 97205
(503) 228-5230

Project #: 24908
Project Name: Kings County Jackson Ranch TIA
Analyst: MZS
Date: 3/9/2020
File: H:\24\24908 - Kings County Jackson Ranch TIA\analysis\Signal Warrants\Near Term Plus Project\[24908 Signal Warrant
Intersection: 4. 25th Avenue at SR-41
Scenario: Near Term Plus Project AM

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
7:00 AM	8:00 AM	187	272	0	36
2nd Highest Hour		187	272	0	29
3rd Highest Hour		169	246	0	27
4th Highest Hour		162	236	0	24
5th Highest Hour		144	210	0	22
6th Highest Hour		140	203	0	21
7th Highest Hour		133	193	0	20
8th Highest Hour		128	187	0	19
9th Highest Hour		122	177	0	19
10th Highest Hour		119	174	0	19
11th Highest Hour		115	167	0	16
12th Highest Hour		113	164	0	16
13th Highest Hour		108	157	0	13
14th Highest Hour		97	141	0	12
15th Highest Hour		77	111	0	12
16th Highest Hour		68	98	0	11
17th Highest Hour		52	75	0	7
18th Highest Hour		43	62	0	7
19th Highest Hour		36	52	0	3
20th Highest Hour		20	29	0	2
21st Highest Hour		14	20	0	1
22nd Highest Hour		11	16	0	0
23rd Highest Hour		7	10	0	0
24th Highest Hour		7	10	0	0

Warrant Summary

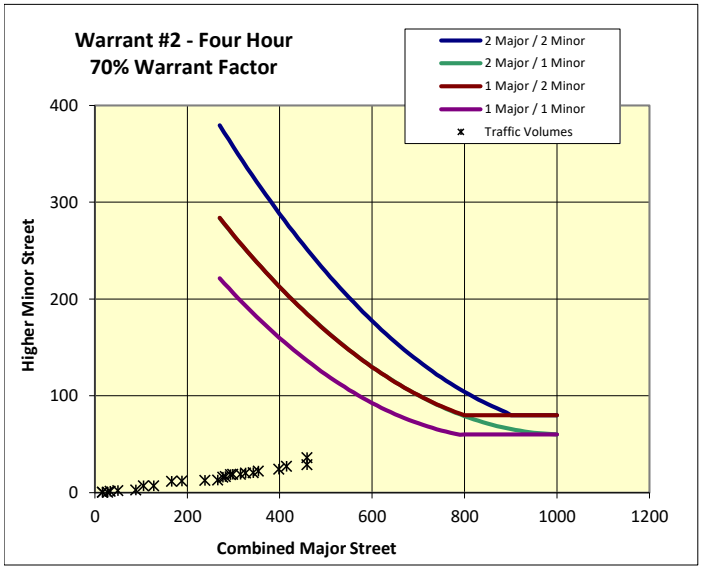
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

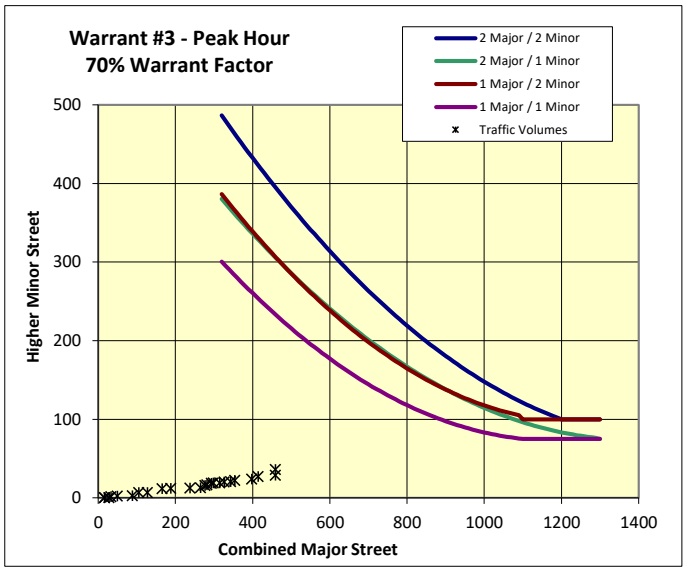
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	Yes
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	87%
Major Street: 8th-Highest Hour / Peak Hour	69%
Minor Street: 4th-Highest Hour / Peak Hour	66%
Minor Street: 8th-Highest Hour / Peak Hour	52%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	0	No	**No**
	B	600	60	0	No	
70%	A	350	105	0	No	**No**
	B	525	53	0	No	
56%	A	280	84	0	No	**No**
	B	420	42	0	No	





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Project #: 24908
Project Name: Kings County Jackson Ranch TIA
Analyst: MZS
Date: 3/9/2020
File: H:\24\24908 - Kings County Jackson Ranch TIA\analysis\Signal Warrants\Near Term Plus Project\[24908 Signal Warrant
Intersection: 4. 25th Avenue at SR-41
Scenario: Near Term Plus Project Fri

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
4:00 PM	5:00 PM	435	455	0	47
2nd Highest Hour		435	455	0	37
3rd Highest Hour		393	411	0	35
4th Highest Hour		377	395	0	31
5th Highest Hour		335	351	0	29
6th Highest Hour		325	340	0	27
7th Highest Hour		309	323	0	26
8th Highest Hour		299	312	0	25
9th Highest Hour		283	296	0	25
10th Highest Hour		278	291	0	24
11th Highest Hour		267	280	0	22
12th Highest Hour		262	274	0	21
13th Highest Hour		252	263	0	17
14th Highest Hour		225	236	0	16
15th Highest Hour		178	186	0	15
16th Highest Hour		157	164	0	15
17th Highest Hour		121	126	0	9
18th Highest Hour		100	104	0	9
19th Highest Hour		84	88	0	4
20th Highest Hour		47	49	0	3
21st Highest Hour		31	33	0	2
22nd Highest Hour		26	27	0	0
23rd Highest Hour		16	16	0	0
24th Highest Hour		16	16	0	0

Warrant Summary

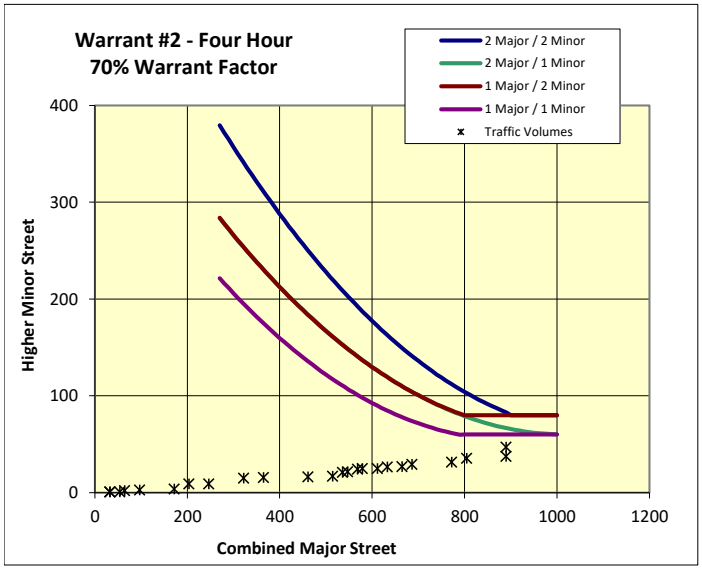
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

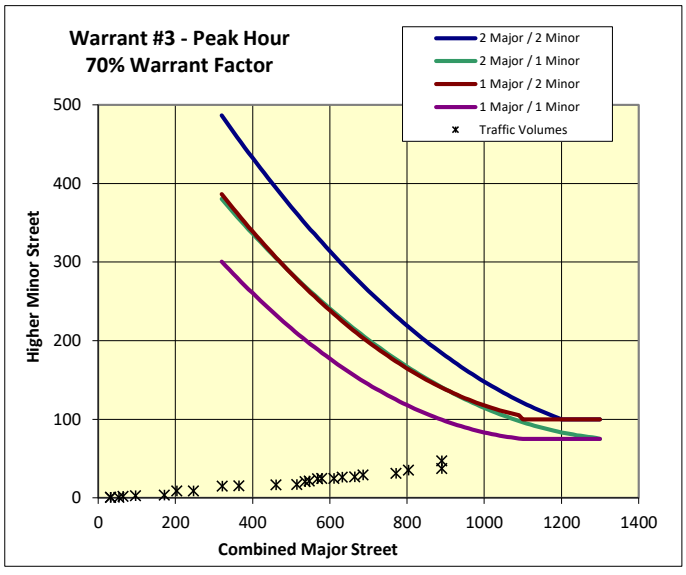
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	Yes
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	87%
Major Street: 8th-Highest Hour / Peak Hour	69%
Minor Street: 4th-Highest Hour / Peak Hour	66%
Minor Street: 8th-Highest Hour / Peak Hour	52%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	0	No	**No**
	B	600	60	0	No	
70%	A	350	105	0	No	**No**
	B	525	53	0	No	
56%	A	280	84	0	No	**No**
	B	420	42	1	No	





KITTELSON & ASSOCIATES, INC.
610 SW Alder, Suite 700
Portland, Oregon 97205
(503) 228-5230

Project #: 24908
Project Name: Kings County Jackson Ranch TIA
Analyst: MZS
Date: 3/9/2020
File: H:\24\24908 - Kings County Jackson Ranch TIA\analysis\Signal Warrants\Near Term Plus Project\[24908 Signal Warrant
Intersection: 4. 25th Avenue at SR-41
Scenario: Near Term Plus Project PM

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
4:00 PM	5:00 PM	338	296	0	17
2nd Highest Hour		338	296	0	14
3rd Highest Hour		305	267	0	13
4th Highest Hour		293	257	0	11
5th Highest Hour		261	228	0	10
6th Highest Hour		252	221	0	10
7th Highest Hour		240	210	0	10
8th Highest Hour		232	203	0	9
9th Highest Hour		220	193	0	9
10th Highest Hour		216	189	0	9
11th Highest Hour		208	182	0	8
12th Highest Hour		204	178	0	7
13th Highest Hour		195	171	0	6
14th Highest Hour		175	153	0	6
15th Highest Hour		138	121	0	6
16th Highest Hour		122	107	0	5
17th Highest Hour		94	82	0	3
18th Highest Hour		77	68	0	3
19th Highest Hour		65	57	0	1
20th Highest Hour		37	32	0	1
21st Highest Hour		24	21	0	1
22nd Highest Hour		20	18	0	0
23rd Highest Hour		12	11	0	0
24th Highest Hour		12	11	0	0

Warrant Summary

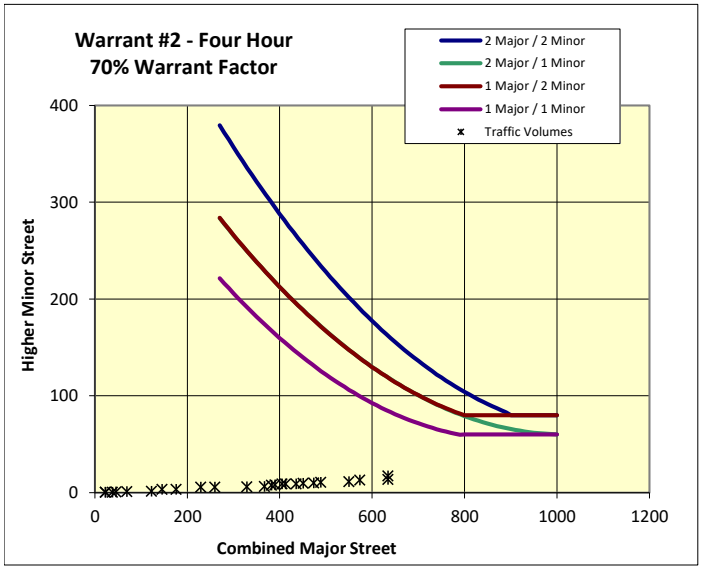
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

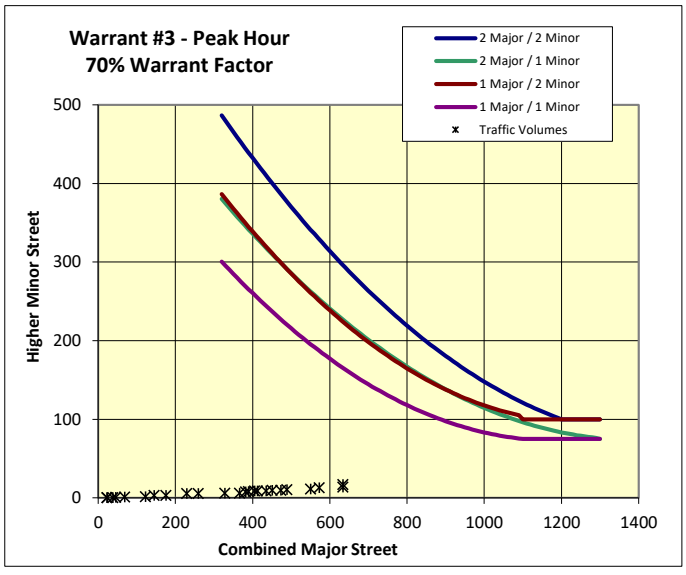
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	Yes
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	87%
Major Street: 8th-Highest Hour / Peak Hour	69%
Minor Street: 4th-Highest Hour / Peak Hour	66%
Minor Street: 8th-Highest Hour / Peak Hour	52%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	0	No	**No**
	B	600	60	0	No	
70%	A	350	105	0	No	**No**
	B	525	53	0	No	
56%	A	280	84	0	No	**No**
	B	420	42	0	No	





KITTELSON & ASSOCIATES, INC.
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Project #: 24908
Project Name: Kings County Jackson Ranch TIA
Analyst: MZS
Date: 3/9/2020
File: H:\24\24908 - Kings County Jackson Ranch TIA\analysis\Signal Warrants\2040 Plus Project\[24908 Signal Warrant
Intersection: 6. Utica Avenue at Southbound I-5 Ramp
Scenario: 2040 Plus Project AM

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	EB	WB	NB	SB
7:15 AM	8:15 AM	533	293	0	584
2nd Highest Hour		476	261	0	562
3rd Highest Hour		413	227	0	540
4th Highest Hour		407	224	0	489
5th Highest Hour		361	198	0	453
6th Highest Hour		355	195	0	438
7th Highest Hour		344	189	0	438
8th Highest Hour		315	173	0	423
9th Highest Hour		298	164	0	409
10th Highest Hour		287	158	0	409
11th Highest Hour		281	154	0	394
12th Highest Hour		281	154	0	387
13th Highest Hour		275	151	0	329
14th Highest Hour		229	126	0	263
15th Highest Hour		224	123	0	248
16th Highest Hour		160	88	0	226
17th Highest Hour		160	88	0	175
18th Highest Hour		109	60	0	131
19th Highest Hour		69	38	0	110
20th Highest Hour		57	32	0	80
21st Highest Hour		29	16	0	58
22nd Highest Hour		23	13	0	58
23rd Highest Hour		23	13	0	44
24th Highest Hour		17	9	0	44

Warrant Summary

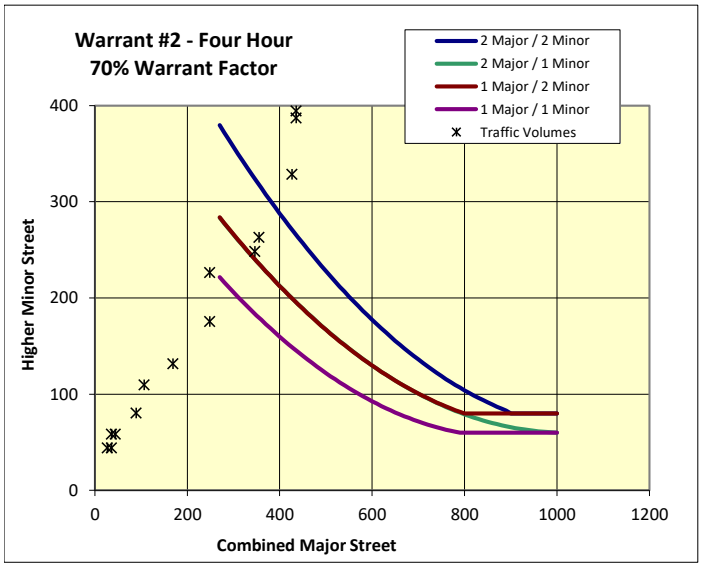
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	Yes
#2	Four-Hour Vehicular volume	Yes	Yes
#3	Peak Hour	Yes	Yes
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

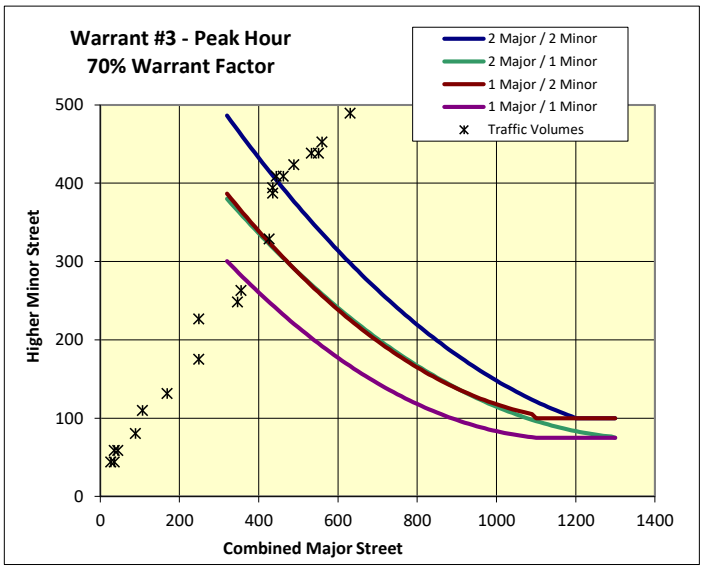
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Minor
East-West Approach =	Major
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	Yes
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	76%
Major Street: 8th-Highest Hour / Peak Hour	59%
Minor Street: 4th-Highest Hour / Peak Hour	84%
Minor Street: 8th-Highest Hour / Peak Hour	73%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	7	No	**No**
	B	750	75	1	No	
80%	A	400	120	13	Yes	**Yes**
	B	600	60	4	No	
70%	A	350	105	14	Yes	**Yes**
	B	525	53	7	No	
56%	A	280	84	15	Yes	**Yes**
	B	420	42	13	Yes	





KITTELSON & ASSOCIATES, INC.
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Project #: 24908
Project Name: Kings County Jackson Ranch TIA
Analyst: MZS
Date: 3/9/2020
File: H:\24\24908 - Kings County Jackson Ranch TIA\analysis\Signal Warrants\2040 Plus Project\[24908 Signal Warrant
Intersection: 6. Utica Avenue at Southbound I-5 Ramp
Scenario: 2040 Plus Project Fri

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	EB	WB	NB	SB
3:30 PM	4:30 PM	1032	244	0	458
2nd Highest Hour		921	218	0	441
3rd Highest Hour		799	189	0	424
4th Highest Hour		788	186	0	384
5th Highest Hour		699	165	0	355
6th Highest Hour		688	163	0	344
7th Highest Hour		666	157	0	344
8th Highest Hour		610	144	0	332
9th Highest Hour		577	136	0	321
10th Highest Hour		555	131	0	321
11th Highest Hour		544	129	0	309
12th Highest Hour		544	129	0	303
13th Highest Hour		533	126	0	258
14th Highest Hour		444	105	0	206
15th Highest Hour		433	102	0	195
16th Highest Hour		311	73	0	177
17th Highest Hour		311	73	0	137
18th Highest Hour		211	50	0	103
19th Highest Hour		133	31	0	86
20th Highest Hour		111	26	0	63
21st Highest Hour		55	13	0	46
22nd Highest Hour		44	10	0	46
23rd Highest Hour		44	10	0	34
24th Highest Hour		33	8	0	34

Warrant Summary

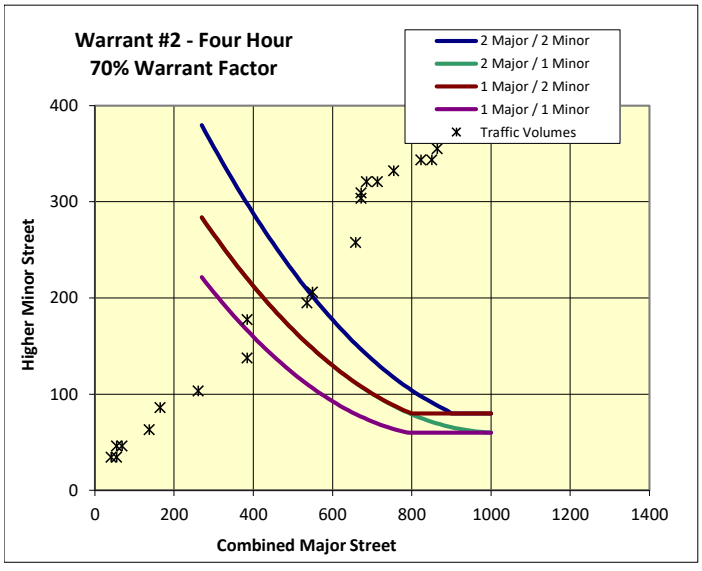
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	Yes
#2	Four-Hour Vehicular volume	Yes	Yes
#3	Peak Hour	Yes	Yes
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

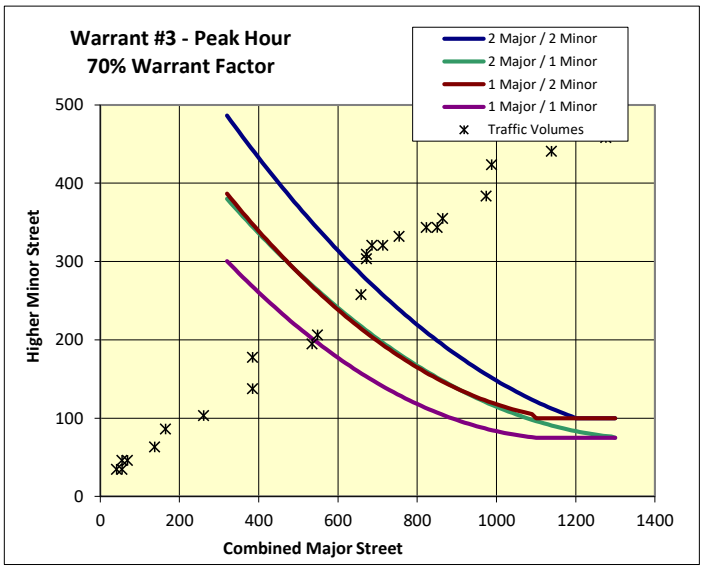
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Minor
East-West Approach =	Major
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	Yes
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	76%
Major Street: 8th-Highest Hour / Peak Hour	59%
Minor Street: 4th-Highest Hour / Peak Hour	84%
Minor Street: 8th-Highest Hour / Peak Hour	73%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	15	Yes	**Yes**
	B	750	75	8	Yes	
80%	A	400	120	15	Yes	**Yes**
	B	600	60	13	Yes	
70%	A	350	105	17	Yes	**Yes**
	B	525	53	15	Yes	
56%	A	280	84	17	Yes	**Yes**
	B	420	42	15	Yes	





KITTELSON & ASSOCIATES, INC.
610 SW Alder, Suite 700
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Project #: 24908
Project Name: Kings County Jackson Ranch TIA
Analyst: MZS
Date: 3/9/2020
File: H:\24\24908 - Kings County Jackson Ranch TIA\analysis\Signal Warrants\2040 Plus Project\[24908 Signal Warrant
Intersection: 6. Utica Avenue at Southbound I-5 Ramp
Scenario: 2040 Plus Project PM

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	EB	WB	NB	SB
4:00 PM	5:00 PM	822	193	0	375
2nd Highest Hour		734	172	0	361
3rd Highest Hour		636	149	0	347
4th Highest Hour		628	147	0	314
5th Highest Hour		557	131	0	291
6th Highest Hour		548	129	0	281
7th Highest Hour		530	125	0	281
8th Highest Hour		486	114	0	272
9th Highest Hour		460	108	0	263
10th Highest Hour		442	104	0	263
11th Highest Hour		433	102	0	253
12th Highest Hour		433	102	0	248
13th Highest Hour		424	100	0	211
14th Highest Hour		354	83	0	169
15th Highest Hour		345	81	0	159
16th Highest Hour		247	58	0	145
17th Highest Hour		247	58	0	113
18th Highest Hour		168	39	0	84
19th Highest Hour		106	25	0	70
20th Highest Hour		88	21	0	52
21st Highest Hour		44	10	0	38
22nd Highest Hour		35	8	0	38
23rd Highest Hour		35	8	0	28
24th Highest Hour		27	6	0	28

Warrant Summary

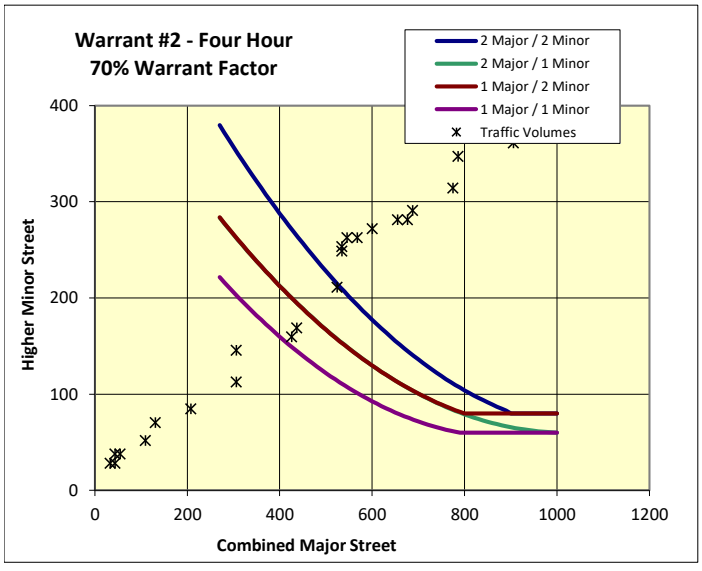
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	Yes
#2	Four-Hour Vehicular volume	Yes	Yes
#3	Peak Hour	Yes	Yes
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

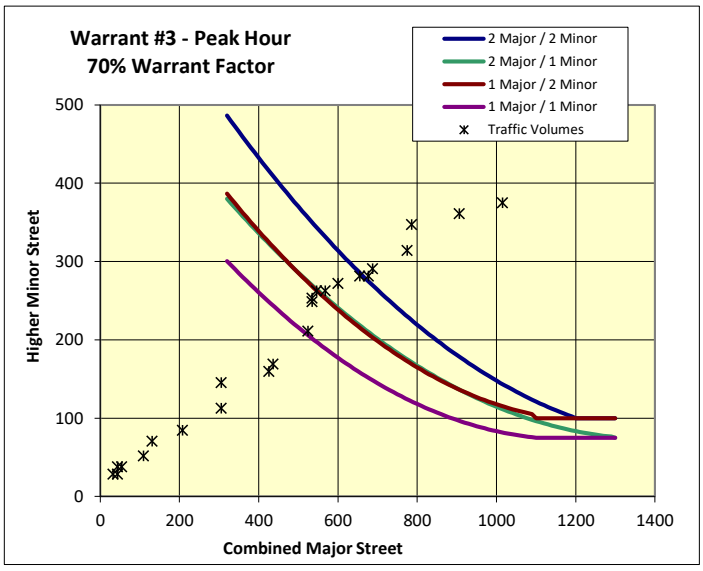
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Minor
East-West Approach =	Major
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	Yes
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	76%
Major Street: 8th-Highest Hour / Peak Hour	59%
Minor Street: 4th-Highest Hour / Peak Hour	84%
Minor Street: 8th-Highest Hour / Peak Hour	73%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	13	Yes	**Yes**
	B	750	75	4	No	
80%	A	400	120	15	Yes	**Yes**
	B	600	60	8	Yes	
70%	A	350	105	15	Yes	**Yes**
	B	525	53	12	Yes	
56%	A	280	84	17	Yes	**Yes**
	B	420	42	15	Yes	





KITTELSON & ASSOCIATES, INC.
610 SW Alder, Suite 700
Portland, Oregon 97205
(503) 228-5230

Project #: 24908
Project Name: Kings County Jackson Ranch TIA
Analyst: MZS
Date: 3/9/2020
File: H:\24\24908 - Kings County Jackson Ranch TIA\analysis\Signal Warrants\Near Term Plus Project\[24908 Signal Warrant
Intersection: 6. Utica Avenue at Southbound I-5 Ramp
Scenario: Near Term Plus Project AM

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	EB	WB	NB	SB
7:15 AM	8:15 AM	435	163	0	282
2nd Highest Hour		388	145	0	271
3rd Highest Hour		337	126	0	261
4th Highest Hour		332	124	0	236
5th Highest Hour		295	110	0	219
6th Highest Hour		290	109	0	212
7th Highest Hour		281	105	0	212
8th Highest Hour		257	96	0	204
9th Highest Hour		243	91	0	197
10th Highest Hour		234	88	0	197
11th Highest Hour		229	86	0	190
12th Highest Hour		229	86	0	187
13th Highest Hour		225	84	0	159
14th Highest Hour		187	70	0	127
15th Highest Hour		182	68	0	120
16th Highest Hour		131	49	0	109
17th Highest Hour		131	49	0	85
18th Highest Hour		89	33	0	63
19th Highest Hour		56	21	0	53
20th Highest Hour		47	18	0	39
21st Highest Hour		23	9	0	28
22nd Highest Hour		19	7	0	28
23rd Highest Hour		19	7	0	21
24th Highest Hour		14	5	0	21

Warrant Summary

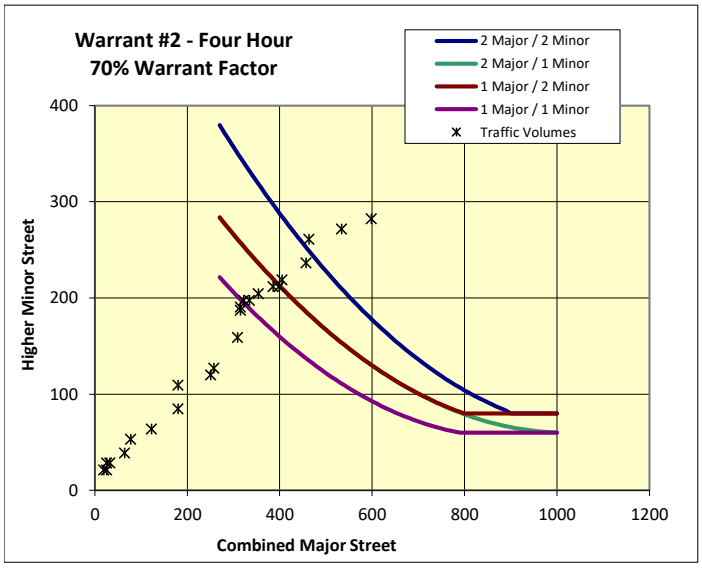
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	Yes
#2	Four-Hour Vehicular volume	Yes	Yes
#3	Peak Hour	Yes	Yes
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

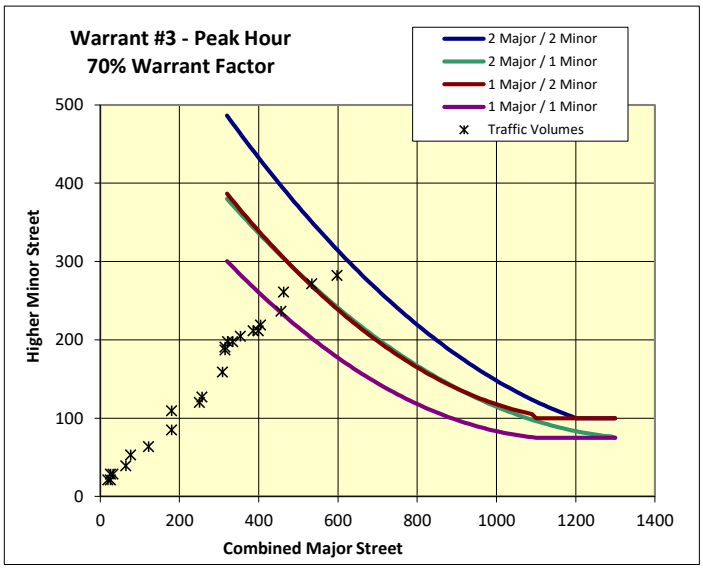
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Minor
East-West Approach =	Major
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	Yes
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	76%
Major Street: 8th-Highest Hour / Peak Hour	59%
Minor Street: 4th-Highest Hour / Peak Hour	84%
Minor Street: 8th-Highest Hour / Peak Hour	73%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	2	No	**No**
	B	750	75	0	No	
80%	A	400	120	5	No	**No**
	B	600	60	0	No	
70%	A	350	105	8	Yes	**Yes**
	B	525	53	2	No	
56%	A	280	84	13	Yes	**Yes**
	B	420	42	4	No	





KITTELSON & ASSOCIATES, INC.
610 SW Alder, Suite 700
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Project #: 24908
Project Name: Kings County Jackson Ranch TIA
Analyst: MZS
Date: 3/9/2020
File: H:\24\24908 - Kings County Jackson Ranch TIA\analysis\Signal Warrants\Near Term Plus Project\[24908 Signal Warrant
Intersection: 6. Utica Avenue at Southbound I-5 Ramp
Scenario: Near Term Plus Project Fri

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	EB	WB	NB	SB
3:30 PM	4:30 PM	589	207	0	370
2nd Highest Hour		526	185	0	356
3rd Highest Hour		456	160	0	342
4th Highest Hour		450	158	0	310
5th Highest Hour		399	140	0	287
6th Highest Hour		393	138	0	278
7th Highest Hour		380	134	0	278
8th Highest Hour		348	122	0	268
9th Highest Hour		329	116	0	259
10th Highest Hour		317	111	0	259
11th Highest Hour		310	109	0	250
12th Highest Hour		310	109	0	245
13th Highest Hour		304	107	0	208
14th Highest Hour		253	89	0	167
15th Highest Hour		247	87	0	157
16th Highest Hour		177	62	0	143
17th Highest Hour		177	62	0	111
18th Highest Hour		120	42	0	83
19th Highest Hour		76	27	0	69
20th Highest Hour		63	22	0	51
21st Highest Hour		32	11	0	37
22nd Highest Hour		25	9	0	37
23rd Highest Hour		25	9	0	28
24th Highest Hour		19	7	0	28

Warrant Summary

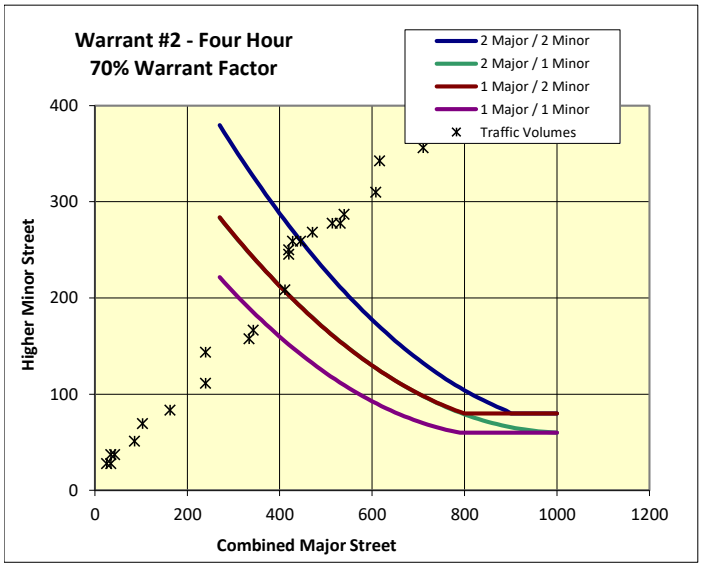
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	Yes
#2	Four-Hour Vehicular volume	Yes	Yes
#3	Peak Hour	Yes	Yes
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

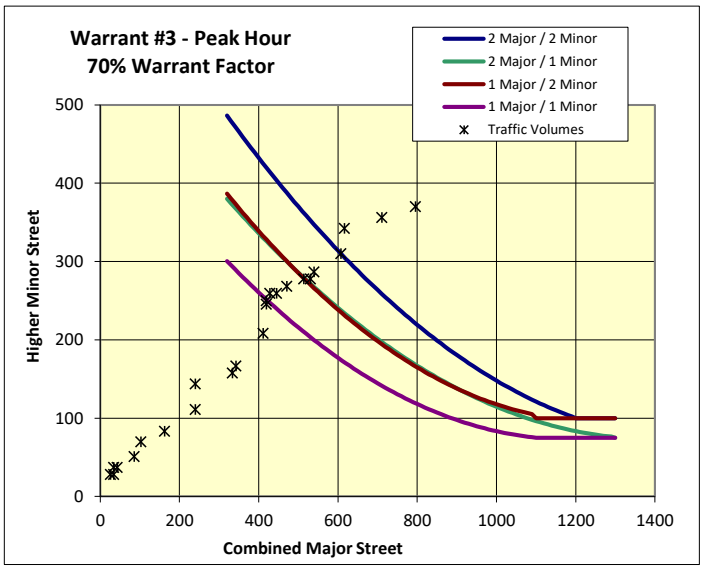
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Minor
East-West Approach =	Major
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	Yes
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	76%
Major Street: 8th-Highest Hour / Peak Hour	59%
Minor Street: 4th-Highest Hour / Peak Hour	84%
Minor Street: 8th-Highest Hour / Peak Hour	73%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	7	No	**No**
	B	750	75	1	No	
80%	A	400	120	13	Yes	**Yes**
	B	600	60	4	No	
70%	A	350	105	13	Yes	**Yes**
	B	525	53	6	No	
56%	A	280	84	15	Yes	**Yes**
	B	420	42	12	Yes	





KITTELSON & ASSOCIATES, INC.
610 SW Alder, Suite 700
Portland, Oregon 97205
(503) 228-5230

Project #: 24908
Project Name: Kings County Jackson Ranch TIA
Analyst: MZS
Date: 3/9/2020
File: H:\24\24908 - Kings County Jackson Ranch TIA\analysis\Signal Warrants\Near Term Plus Project\[24908 Signal Warrant
Intersection: 6. Utica Avenue at Southbound I-5 Ramp
Scenario: Near Term Plus Project PM

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	EB	WB	NB	SB
4:00 PM	5:00 PM	411	157	0	292
2nd Highest Hour		367	140	0	281
3rd Highest Hour		318	122	0	270
4th Highest Hour		314	120	0	245
5th Highest Hour		278	106	0	226
6th Highest Hour		274	105	0	219
7th Highest Hour		265	101	0	219
8th Highest Hour		243	93	0	212
9th Highest Hour		230	88	0	204
10th Highest Hour		221	84	0	204
11th Highest Hour		217	83	0	197
12th Highest Hour		217	83	0	193
13th Highest Hour		212	81	0	164
14th Highest Hour		177	68	0	131
15th Highest Hour		172	66	0	124
16th Highest Hour		124	47	0	113
17th Highest Hour		124	47	0	88
18th Highest Hour		84	32	0	66
19th Highest Hour		53	20	0	55
20th Highest Hour		44	17	0	40
21st Highest Hour		22	8	0	29
22nd Highest Hour		18	7	0	29
23rd Highest Hour		18	7	0	22
24th Highest Hour		13	5	0	22

Warrant Summary

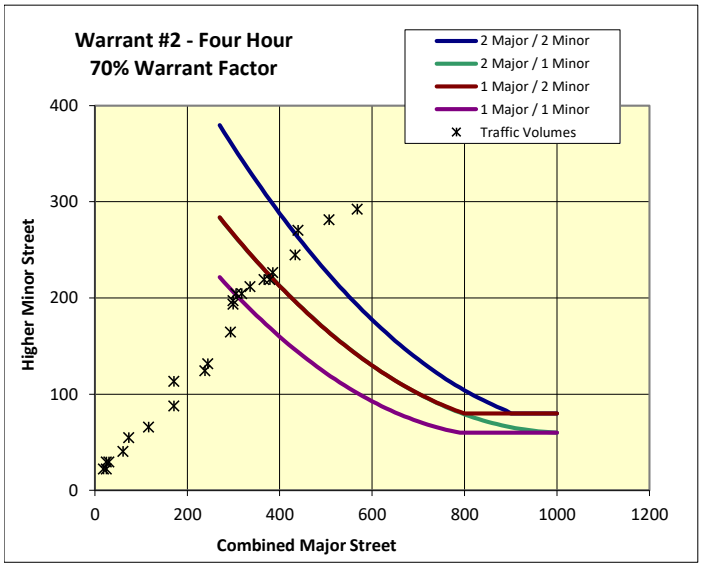
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	Yes
#3	Peak Hour	Yes	Yes
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

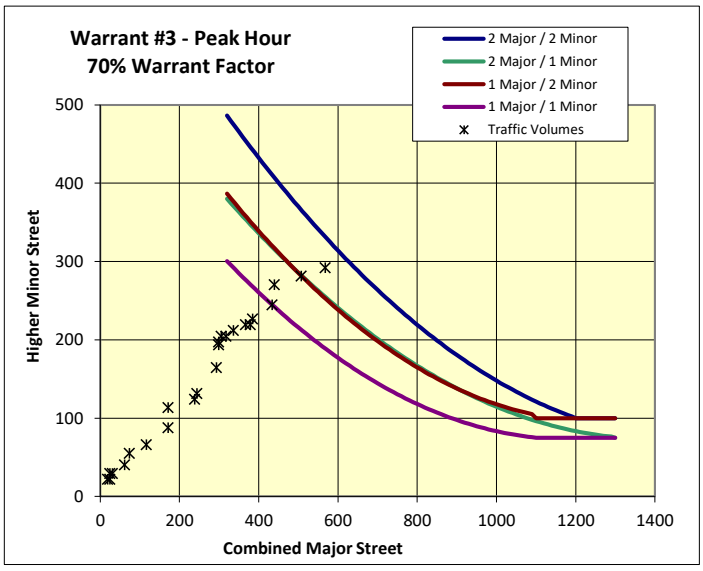
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Minor
East-West Approach =	Major
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	Yes
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	76%
Major Street: 8th-Highest Hour / Peak Hour	59%
Minor Street: 4th-Highest Hour / Peak Hour	84%
Minor Street: 8th-Highest Hour / Peak Hour	73%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	2	No	**No**
	B	750	75	0	No	
80%	A	400	120	4	No	**No**
	B	600	60	0	No	
70%	A	350	105	7	No	**No**
	B	525	53	1	No	
56%	A	280	84	13	Yes	**Yes**
	B	420	42	4	No	





KITTELSON & ASSOCIATES, INC.
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Portland, Oregon 97205
(503) 228-5230

Project #: 24908
Project Name: Kings County Jackson Ranch TIA
Analyst: MZS
Date: 3/9/2020
File: H:\24\24908 - Kings County Jackson Ranch TIA\analysis\Signal Warrants\2040 Plus Project\[24908 Signal Warrant
Intersection: 7. Utica Avenue at Northbound I-5 Ramp
Scenario: 2040 Plus Project AM

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	EB	WB	NB	SB
7:00 AM	8:00 AM	383	102	247	0
2nd Highest Hour		342	91	238	0
3rd Highest Hour		297	79	228	0
4th Highest Hour		292	78	207	0
5th Highest Hour		259	69	191	0
6th Highest Hour		255	68	185	0
7th Highest Hour		247	66	185	0
8th Highest Hour		227	60	179	0
9th Highest Hour		214	57	173	0
10th Highest Hour		206	55	173	0
11th Highest Hour		202	54	167	0
12th Highest Hour		202	54	164	0
13th Highest Hour		198	53	139	0
14th Highest Hour		165	44	111	0
15th Highest Hour		161	43	105	0
16th Highest Hour		115	31	96	0
17th Highest Hour		115	31	74	0
18th Highest Hour		78	21	56	0
19th Highest Hour		49	13	46	0
20th Highest Hour		41	11	34	0
21st Highest Hour		21	5	25	0
22nd Highest Hour		16	4	25	0
23rd Highest Hour		16	4	19	0
24th Highest Hour		12	3	19	0

Warrant Summary

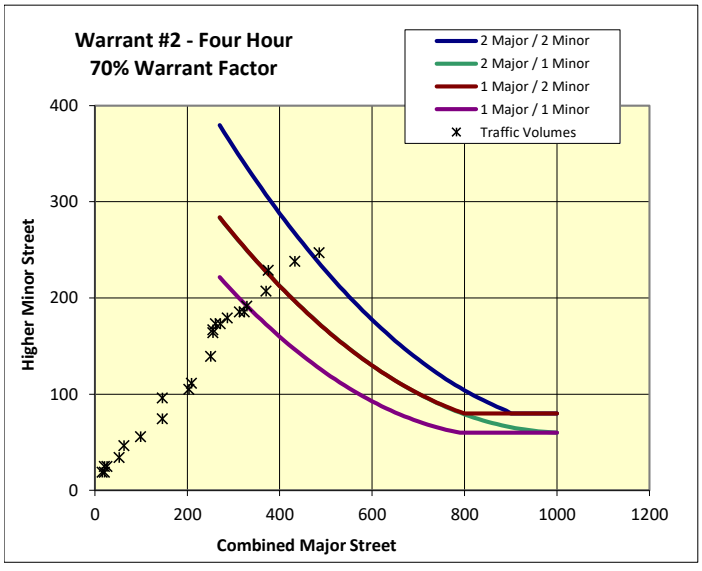
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	Yes
#3	Peak Hour	Yes	Yes
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

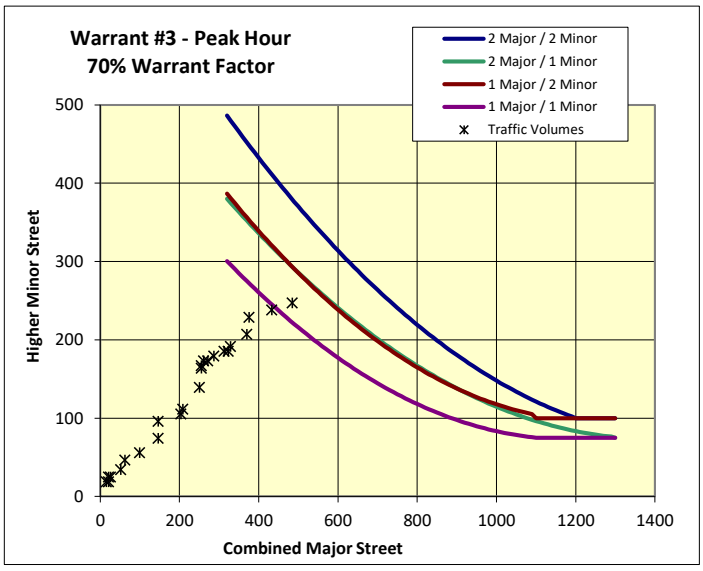
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Minor
East-West Approach =	Major
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	Yes
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	76%
Major Street: 8th-Highest Hour / Peak Hour	59%
Minor Street: 4th-Highest Hour / Peak Hour	84%
Minor Street: 8th-Highest Hour / Peak Hour	73%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	2	No	**No**
	B	600	60	0	No	
70%	A	350	105	4	No	**No**
	B	525	53	0	No	
56%	A	280	84	8	Yes	**Yes**
	B	420	42	2	No	





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610 SW Alder, Suite 700
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(503) 228-5230

Project #: 24908
Project Name: Kings County Jackson Ranch TIA
Analyst: MZS
Date: 3/9/2020
File: H:\24\24908 - Kings County Jackson Ranch TIA\analysis\Signal Warrants\2040 Plus Project\[24908 Signal Warrant
Intersection: 7. Utica Avenue at Northbound I-5 Ramp
Scenario: 2040 Plus Project Fri

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	EB	WB	NB	SB
3:45 PM	4:45 PM	810	121	207	0
2nd Highest Hour		723	108	199	0
3rd Highest Hour		627	94	191	0
4th Highest Hour		618	92	173	0
5th Highest Hour		549	82	160	0
6th Highest Hour		540	81	155	0
7th Highest Hour		523	78	155	0
8th Highest Hour		479	72	150	0
9th Highest Hour		453	68	145	0
10th Highest Hour		435	65	145	0
11th Highest Hour		427	64	140	0
12th Highest Hour		427	64	137	0
13th Highest Hour		418	62	116	0
14th Highest Hour		348	52	93	0
15th Highest Hour		340	51	88	0
16th Highest Hour		244	36	80	0
17th Highest Hour		244	36	62	0
18th Highest Hour		165	25	47	0
19th Highest Hour		105	16	39	0
20th Highest Hour		87	13	28	0
21st Highest Hour		44	7	21	0
22nd Highest Hour		35	5	21	0
23rd Highest Hour		35	5	16	0
24th Highest Hour		26	4	16	0

Warrant Summary

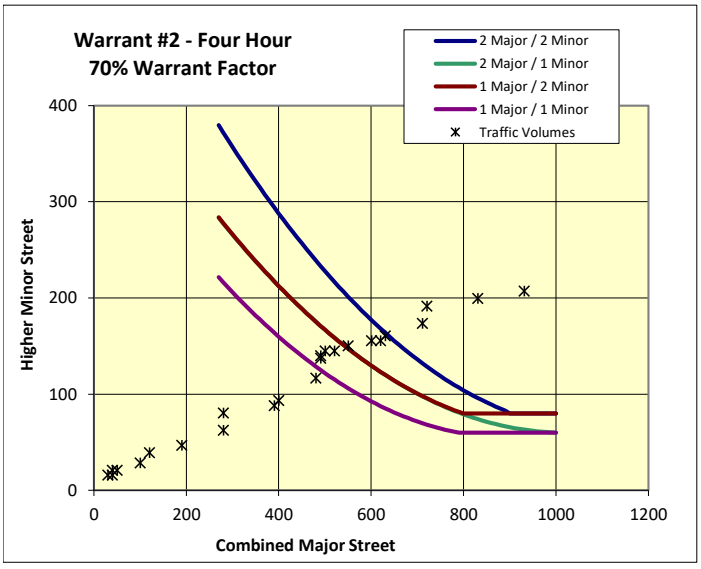
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	Yes
#2	Four-Hour Vehicular volume	Yes	Yes
#3	Peak Hour	Yes	Yes
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

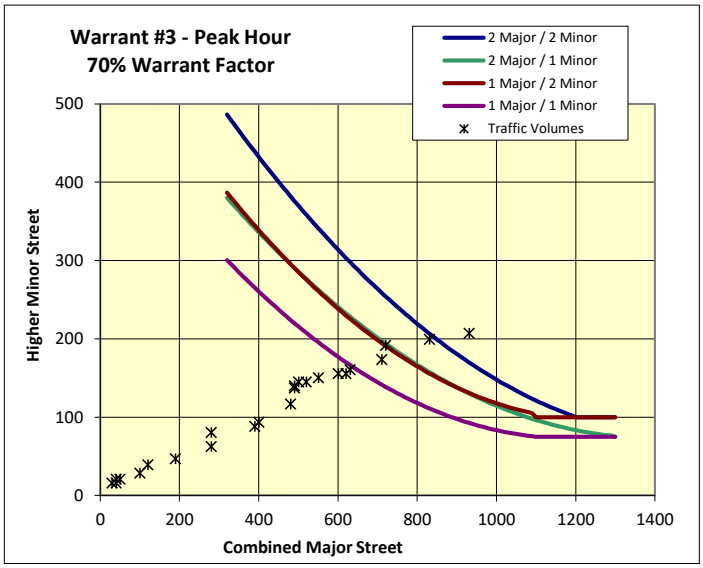
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Minor
East-West Approach =	Major
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	Yes
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	76%
Major Street: 8th-Highest Hour / Peak Hour	59%
Minor Street: 4th-Highest Hour / Peak Hour	84%
Minor Street: 8th-Highest Hour / Peak Hour	73%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	8	Yes	**Yes**
	B	750	75	2	No	
80%	A	400	120	12	Yes	**Yes**
	B	600	60	7	No	
70%	A	350	105	13	Yes	**Yes**
	B	525	53	8	Yes	
56%	A	280	84	15	Yes	**Yes**
	B	420	42	13	Yes	





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610 SW Alder, Suite 700
Portland, Oregon 97205
(503) 228-5230

Project #: 24908
Project Name: Kings County Jackson Ranch TIA
Analyst: MZS
Date: 3/9/2020
File: H:\24\24908 - Kings County Jackson Ranch TIA\analysis\Signal Warrants\2040 Plus Project\[24908 Signal Warrant
Intersection: 7. Utica Avenue at Northbound I-5 Ramp
Scenario: 2040 Plus Project PM

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	EB	WB	NB	SB
4:00 PM	5:00 PM	648	62	161	0
2nd Highest Hour		578	55	155	0
3rd Highest Hour		502	48	149	0
4th Highest Hour		495	47	135	0
5th Highest Hour		439	42	125	0
6th Highest Hour		432	41	121	0
7th Highest Hour		418	40	121	0
8th Highest Hour		383	37	117	0
9th Highest Hour		362	35	113	0
10th Highest Hour		348	33	113	0
11th Highest Hour		341	33	109	0
12th Highest Hour		341	33	107	0
13th Highest Hour		334	32	91	0
14th Highest Hour		279	27	72	0
15th Highest Hour		272	26	68	0
16th Highest Hour		195	19	62	0
17th Highest Hour		195	19	48	0
18th Highest Hour		132	13	36	0
19th Highest Hour		84	8	30	0
20th Highest Hour		70	7	22	0
21st Highest Hour		35	3	16	0
22nd Highest Hour		28	3	16	0
23rd Highest Hour		28	3	12	0
24th Highest Hour		21	2	12	0

Warrant Summary

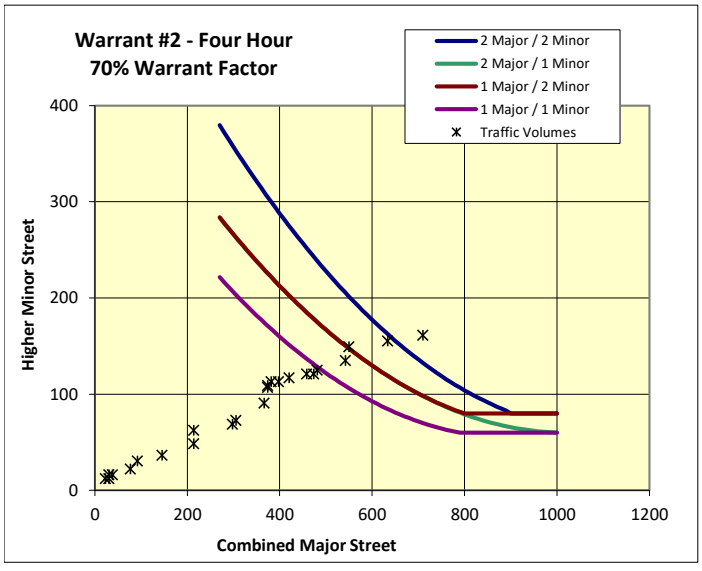
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	Yes
#2	Four-Hour Vehicular volume	Yes	Yes
#3	Peak Hour	Yes	Yes
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

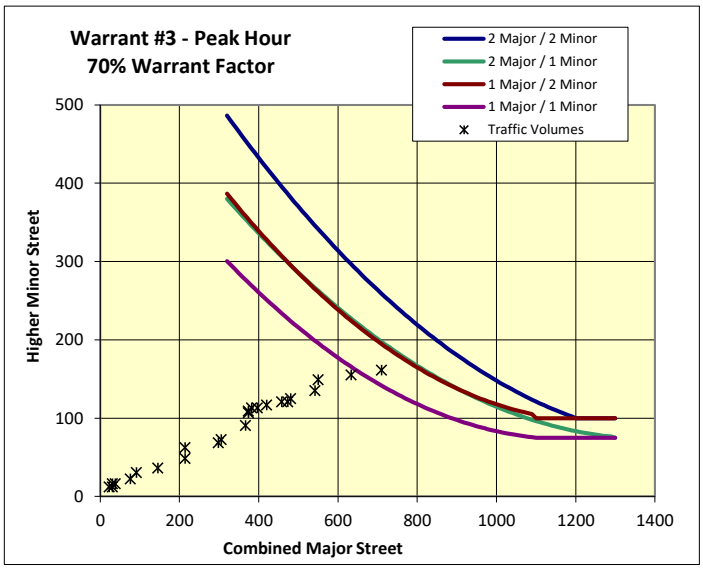
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Minor
East-West Approach =	Major
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	Yes
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	76%
Major Street: 8th-Highest Hour / Peak Hour	59%
Minor Street: 4th-Highest Hour / Peak Hour	84%
Minor Street: 8th-Highest Hour / Peak Hour	73%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	2	No	**No**
	B	750	75	0	No	
80%	A	400	120	7	No	**No**
	B	600	60	2	No	
70%	A	350	105	12	Yes	**Yes**
	B	525	53	4	No	
56%	A	280	84	13	Yes	**Yes**
	B	420	42	8	Yes	





KITTELSON & ASSOCIATES, INC.
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Portland, Oregon 97205
(503) 228-5230

Project #: 24908
Project Name: Kings County Jackson Ranch TIA
Analyst: MZS
Date: 3/9/2020
File: H:\24\24908 - Kings County Jackson Ranch TIA\analysis\Signal Warrants\Near Term Plus Project\[24908 Signal Warrant
Intersection: 7. Utica Avenue at Northbound I-5 Ramp
Scenario: Near Term Plus Project AM

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	EB	WB	NB	SB
7:00 AM	8:00 AM	304	48	154	0
2nd Highest Hour		271	43	148	0
3rd Highest Hour		235	37	142	0
4th Highest Hour		232	37	129	0
5th Highest Hour		206	33	119	0
6th Highest Hour		203	32	116	0
7th Highest Hour		196	31	116	0
8th Highest Hour		180	28	112	0
9th Highest Hour		170	27	108	0
10th Highest Hour		163	26	108	0
11th Highest Hour		160	25	104	0
12th Highest Hour		160	25	102	0
13th Highest Hour		157	25	87	0
14th Highest Hour		131	21	69	0
15th Highest Hour		127	20	65	0
16th Highest Hour		92	14	60	0
17th Highest Hour		92	14	46	0
18th Highest Hour		62	10	35	0
19th Highest Hour		39	6	29	0
20th Highest Hour		33	5	21	0
21st Highest Hour		16	3	15	0
22nd Highest Hour		13	2	15	0
23rd Highest Hour		13	2	12	0
24th Highest Hour		10	2	12	0

Warrant Summary

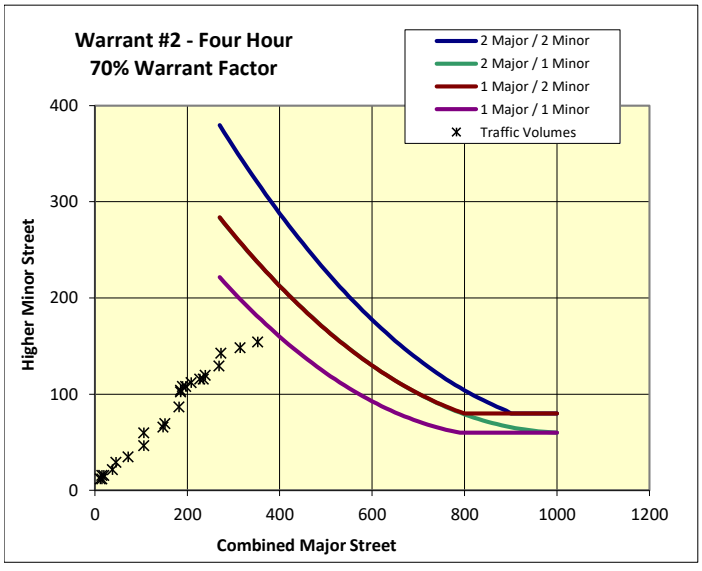
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

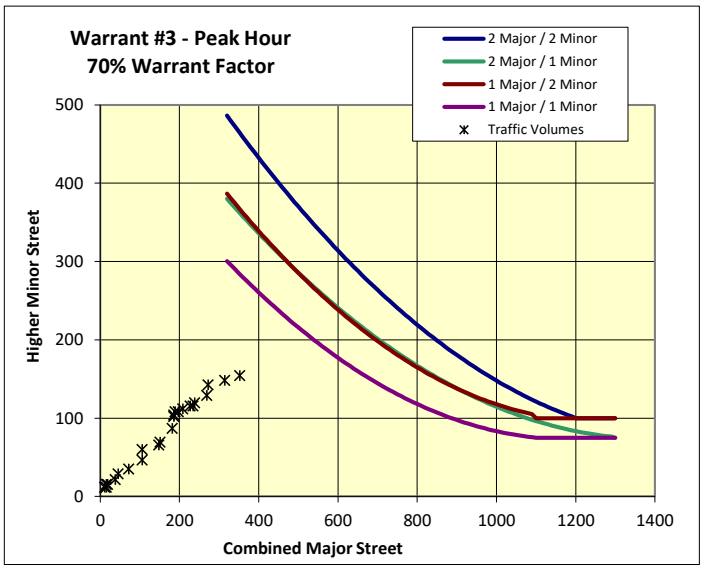
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Minor
East-West Approach =	Major
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	Yes
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	76%
Major Street: 8th-Highest Hour / Peak Hour	59%
Minor Street: 4th-Highest Hour / Peak Hour	84%
Minor Street: 8th-Highest Hour / Peak Hour	73%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	0	No	**No**
	B	600	60	0	No	
70%	A	350	105	1	No	**No**
	B	525	53	0	No	
56%	A	280	84	2	No	**No**
	B	420	42	0	No	





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(503) 228-5230

Project #: 24908
Project Name: Kings County Jackson Ranch TIA
Analyst: MZS
Date: 3/9/2020
File: H:\24\24908 - Kings County Jackson Ranch TIA\analysis\Signal Warrants\Near Term Plus Project\[24908 Signal Warrant
Intersection: 7. Utica Avenue at Northbound I-5 Ramp
Scenario: Near Term Plus Project Fri

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	EB	WB	NB	SB
3:45 PM	4:45 PM	447	89	178	0
2nd Highest Hour		399	79	171	0
3rd Highest Hour		346	69	165	0
4th Highest Hour		341	68	149	0
5th Highest Hour		303	60	138	0
6th Highest Hour		298	59	134	0
7th Highest Hour		288	57	134	0
8th Highest Hour		264	53	129	0
9th Highest Hour		250	50	125	0
10th Highest Hour		240	48	125	0
11th Highest Hour		236	47	120	0
12th Highest Hour		236	47	118	0
13th Highest Hour		231	46	100	0
14th Highest Hour		192	38	80	0
15th Highest Hour		187	37	76	0
16th Highest Hour		135	27	69	0
17th Highest Hour		135	27	53	0
18th Highest Hour		91	18	40	0
19th Highest Hour		58	11	33	0
20th Highest Hour		48	10	24	0
21st Highest Hour		24	5	18	0
22nd Highest Hour		19	4	18	0
23rd Highest Hour		19	4	13	0
24th Highest Hour		14	3	13	0

Warrant Summary

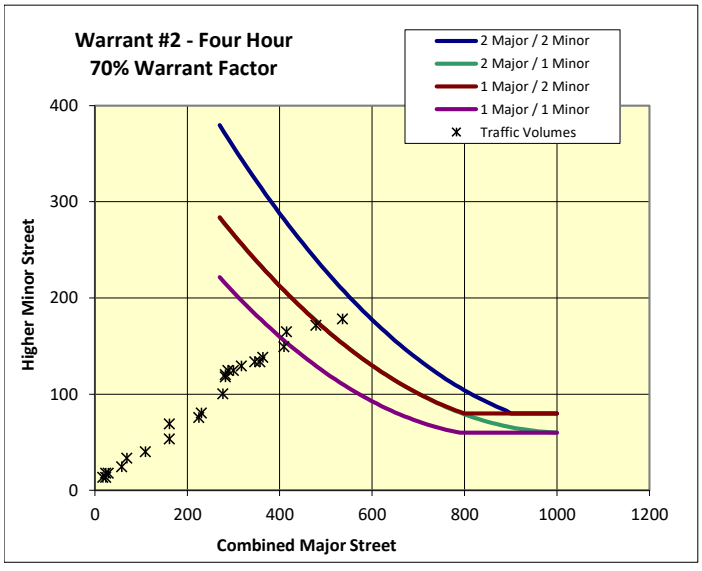
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	Yes
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

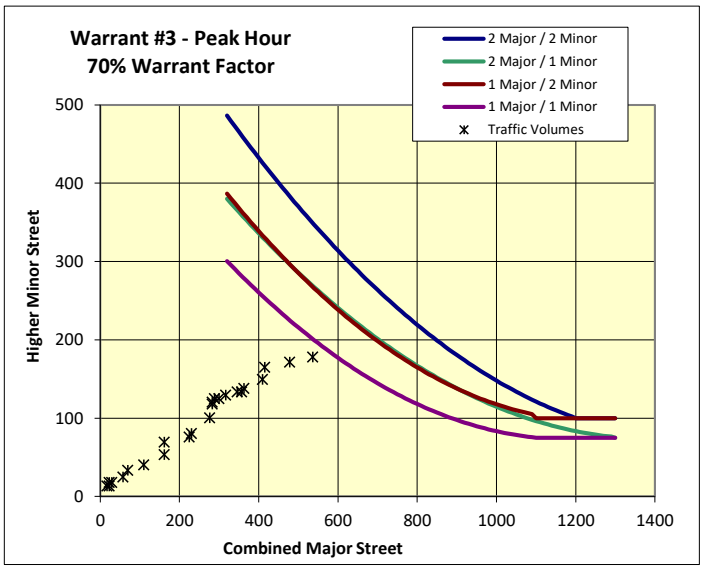
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Minor
East-West Approach =	Major
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	Yes
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	76%
Major Street: 8th-Highest Hour / Peak Hour	59%
Minor Street: 4th-Highest Hour / Peak Hour	84%
Minor Street: 8th-Highest Hour / Peak Hour	73%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	1	No	**No**
	B	750	75	0	No	
80%	A	400	120	4	No	**No**
	B	600	60	0	No	
70%	A	350	105	6	No	**No**
	B	525	53	1	No	
56%	A	280	84	12	Yes	**Yes**
	B	420	42	2	No	





KITTELSON & ASSOCIATES, INC.
610 SW Alder, Suite 700
Portland, Oregon 97205
(503) 228-5230

Project #: 24908
Project Name: Kings County Jackson Ranch TIA
Analyst: MZS
Date: 3/9/2020
File: H:\24\24908 - Kings County Jackson Ranch TIA\analysis\Signal Warrants\Near Term Plus Project\[24908 Signal Warrant
Intersection: 7. Utica Avenue at Northbound I-5 Ramp
Scenario: Near Term Plus Project PM

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	EB	WB	NB	SB
4:00 PM	5:00 PM	313	43	139	0
2nd Highest Hour		279	38	134	0
3rd Highest Hour		242	33	129	0
4th Highest Hour		239	33	116	0
5th Highest Hour		212	29	108	0
6th Highest Hour		209	29	104	0
7th Highest Hour		202	28	104	0
8th Highest Hour		185	25	101	0
9th Highest Hour		175	24	97	0
10th Highest Hour		168	23	97	0
11th Highest Hour		165	23	94	0
12th Highest Hour		165	23	92	0
13th Highest Hour		162	22	78	0
14th Highest Hour		135	18	63	0
15th Highest Hour		131	18	59	0
16th Highest Hour		94	13	54	0
17th Highest Hour		94	13	42	0
18th Highest Hour		64	9	31	0
19th Highest Hour		40	6	26	0
20th Highest Hour		34	5	19	0
21st Highest Hour		17	2	14	0
22nd Highest Hour		13	2	14	0
23rd Highest Hour		13	2	10	0
24th Highest Hour		10	1	10	0

Warrant Summary

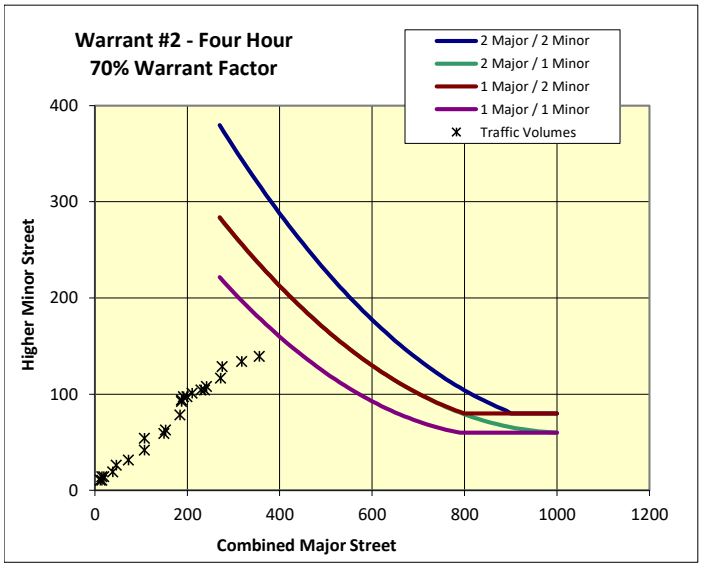
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

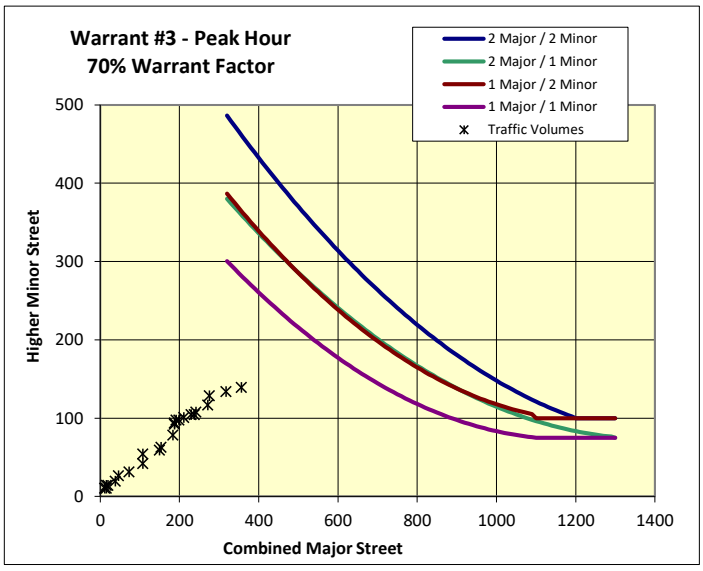
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Minor
East-West Approach =	Major
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	Yes
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	76%
Major Street: 8th-Highest Hour / Peak Hour	59%
Minor Street: 4th-Highest Hour / Peak Hour	84%
Minor Street: 8th-Highest Hour / Peak Hour	73%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	0	No	**No**
	B	600	60	0	No	
70%	A	350	105	1	No	**No**
	B	525	53	0	No	
56%	A	280	84	2	No	**No**
	B	420	42	0	No	





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Portland, Oregon 97205
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Project #: 24908
Project Name: Kings County Jackson Ranch TIA
Analyst: MZS
Date: 3/9/2020
File: H:\24\24908 - Kings County Jackson Ranch TIA\analysis\Signal Warrants\2040 Plus Project\[24908 Signal Warrant
Intersection: 8. Utica Avenue at Frontage Road
Scenario: 2040 Plus Project AM

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	EB	WB	NB	SB
7:00 AM	8:00 AM	63	98	0	0
2nd Highest Hour		56	87	0	0
3rd Highest Hour		49	76	0	0
4th Highest Hour		48	75	0	0
5th Highest Hour		43	66	0	0
6th Highest Hour		42	65	0	0
7th Highest Hour		41	63	0	0
8th Highest Hour		37	58	0	0
9th Highest Hour		35	55	0	0
10th Highest Hour		34	53	0	0
11th Highest Hour		33	52	0	0
12th Highest Hour		33	52	0	0
13th Highest Hour		33	51	0	0
14th Highest Hour		27	42	0	0
15th Highest Hour		26	41	0	0
16th Highest Hour		19	30	0	0
17th Highest Hour		19	30	0	0
18th Highest Hour		13	20	0	0
19th Highest Hour		8	13	0	0
20th Highest Hour		7	11	0	0
21st Highest Hour		3	5	0	0
22nd Highest Hour		3	4	0	0
23rd Highest Hour		3	4	0	0
24th Highest Hour		2	3	0	0

Warrant Summary

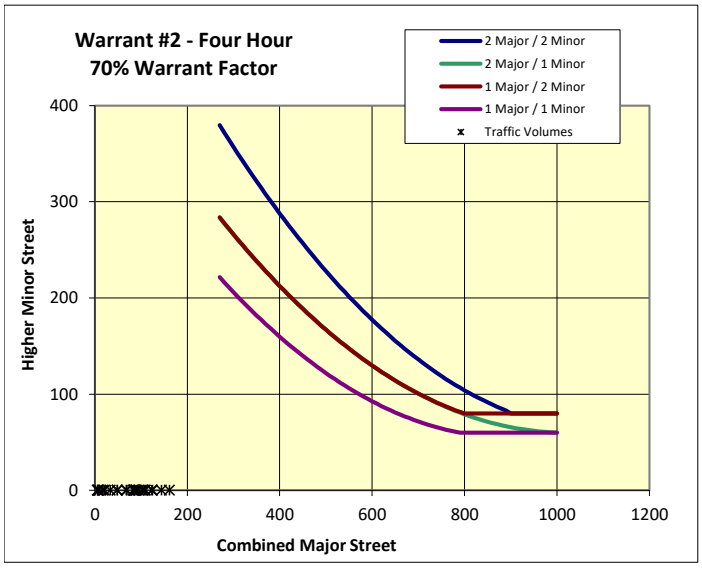
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

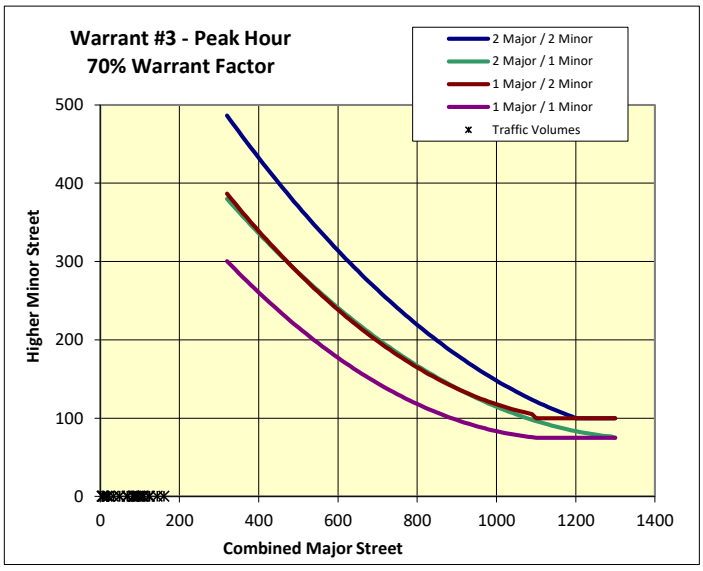
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Minor
East-West Approach =	Major
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	Yes
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	76%
Major Street: 8th-Highest Hour / Peak Hour	59%
Minor Street: 4th-Highest Hour / Peak Hour	66%
Minor Street: 8th-Highest Hour / Peak Hour	52%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	0	No	**No**
	B	600	60	0	No	
70%	A	350	105	0	No	**No**
	B	525	53	0	No	
56%	A	280	84	0	No	**No**
	B	420	42	0	No	





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Project #: 24908
Project Name: Kings County Jackson Ranch TIA
Analyst: MZS
Date: 3/9/2020
File: H:\24\24908 - Kings County Jackson Ranch TIA\analysis\Signal Warrants\2040 Plus Project\[24908 Signal Warrant
Intersection: 8. Utica Avenue at Frontage Road
Scenario: 2040 Plus Project Fri

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	EB	WB	NB	SB
4:00 PM	5:00 PM	136	123	0	3
2nd Highest Hour		121	110	0	2
3rd Highest Hour		105	95	0	2
4th Highest Hour		104	94	0	2
5th Highest Hour		92	83	0	2
6th Highest Hour		91	82	0	2
7th Highest Hour		88	79	0	2
8th Highest Hour		80	73	0	2
9th Highest Hour		76	69	0	2
10th Highest Hour		73	66	0	2
11th Highest Hour		72	65	0	1
12th Highest Hour		72	65	0	1
13th Highest Hour		70	63	0	1
14th Highest Hour		58	53	0	1
15th Highest Hour		57	52	0	1
16th Highest Hour		41	37	0	1
17th Highest Hour		41	37	0	1
18th Highest Hour		28	25	0	1
19th Highest Hour		18	16	0	0
20th Highest Hour		15	13	0	0
21st Highest Hour		7	7	0	0
22nd Highest Hour		6	5	0	0
23rd Highest Hour		6	5	0	0
24th Highest Hour		4	4	0	0

Warrant Summary

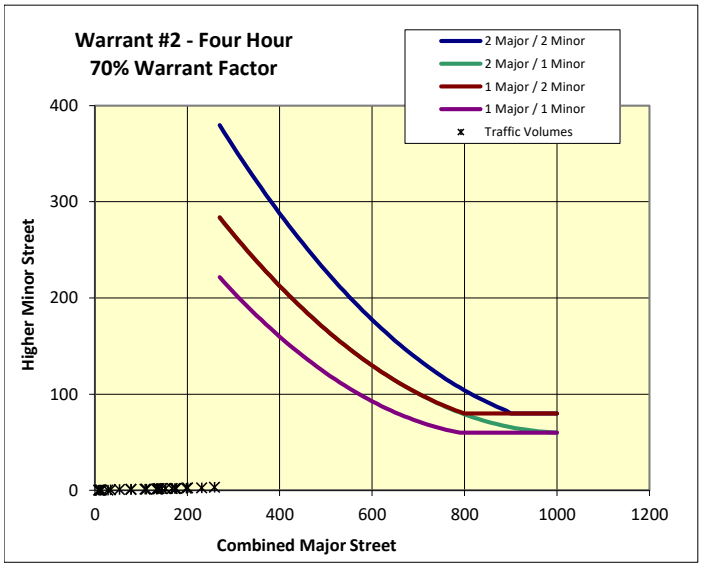
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

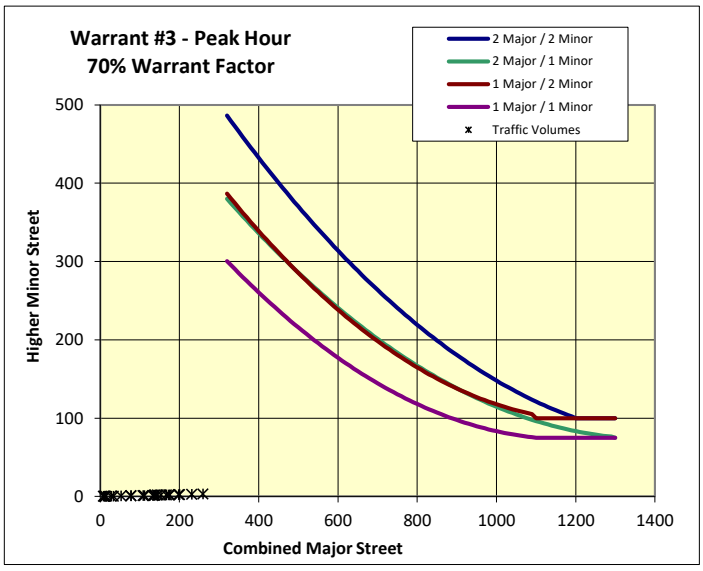
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Minor
East-West Approach =	Major
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	Yes
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	76%
Major Street: 8th-Highest Hour / Peak Hour	59%
Minor Street: 4th-Highest Hour / Peak Hour	66%
Minor Street: 8th-Highest Hour / Peak Hour	52%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	0	No	**No**
	B	600	60	0	No	
70%	A	350	105	0	No	**No**
	B	525	53	0	No	
56%	A	280	84	0	No	**No**
	B	420	42	0	No	





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Portland, Oregon 97205
(503) 228-5230

Project #: 24908
Project Name: Kings County Jackson Ranch TIA
Analyst: MZS
Date: 3/9/2020
File: H:\24\24908 - Kings County Jackson Ranch TIA\analysis\Signal Warrants\2040 Plus Project\[24908 Signal Warrant
Intersection: 8. Utica Avenue at Frontage Road
Scenario: 2040 Plus Project PM

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	EB	WB	NB	SB
4:00 PM	5:00 PM	112	60	0	3
2nd Highest Hour		100	54	0	2
3rd Highest Hour		87	46	0	2
4th Highest Hour		86	46	0	2
5th Highest Hour		76	41	0	2
6th Highest Hour		75	40	0	2
7th Highest Hour		72	39	0	2
8th Highest Hour		66	35	0	2
9th Highest Hour		63	34	0	2
10th Highest Hour		60	32	0	2
11th Highest Hour		59	32	0	1
12th Highest Hour		59	32	0	1
13th Highest Hour		58	31	0	1
14th Highest Hour		48	26	0	1
15th Highest Hour		47	25	0	1
16th Highest Hour		34	18	0	1
17th Highest Hour		34	18	0	1
18th Highest Hour		23	12	0	1
19th Highest Hour		14	8	0	0
20th Highest Hour		12	6	0	0
21st Highest Hour		6	3	0	0
22nd Highest Hour		5	3	0	0
23rd Highest Hour		5	3	0	0
24th Highest Hour		4	2	0	0

Warrant Summary

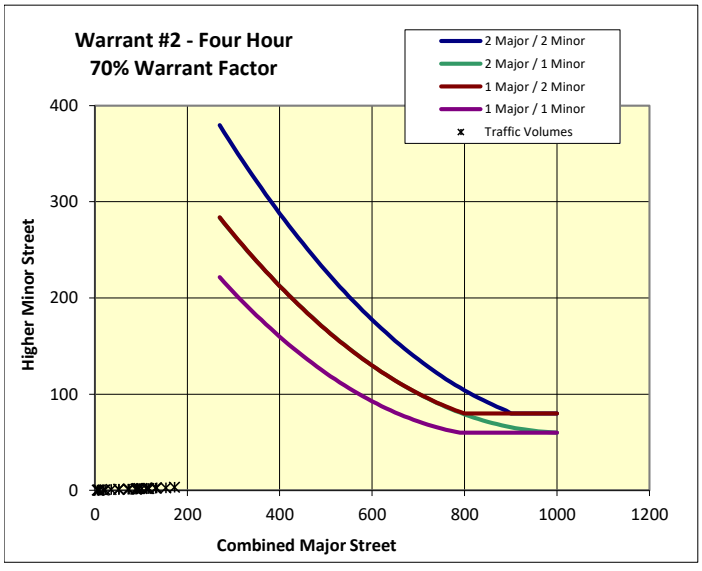
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

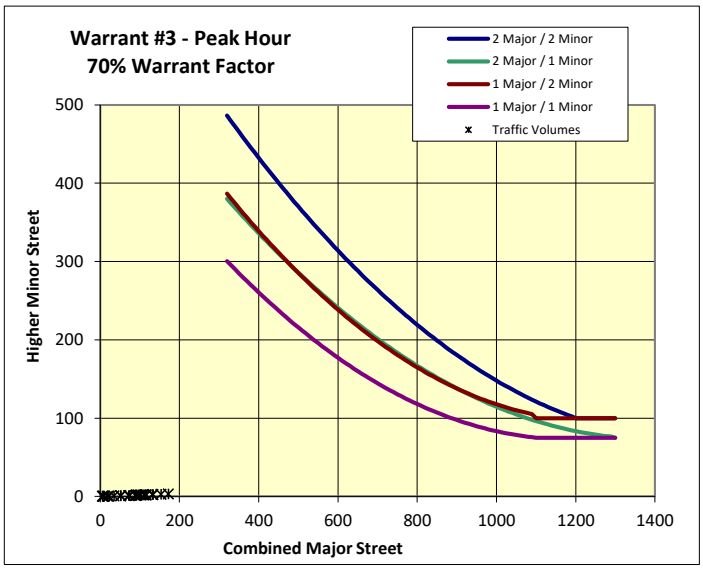
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Minor
East-West Approach =	Major
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	Yes
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	76%
Major Street: 8th-Highest Hour / Peak Hour	59%
Minor Street: 4th-Highest Hour / Peak Hour	66%
Minor Street: 8th-Highest Hour / Peak Hour	52%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	0	No	**No**
	B	600	60	0	No	
70%	A	350	105	0	No	**No**
	B	525	53	0	No	
56%	A	280	84	0	No	**No**
	B	420	42	0	No	





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610 SW Alder, Suite 700
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(503) 228-5230

Project #: 24908
Project Name: Kings County Jackson Ranch TIA
Analyst: MZS
Date: 3/9/2020
File: H:\24\24908 - Kings County Jackson Ranch TIA\analysis\Signal Warrants\Near Term Plus Project\[24908 Signal Warrant
Intersection: 8. Utica Avenue at Frontage Road
Scenario: Near Term Plus Project AM

Analysis Traffic Volumes

Hour Begin	Hour End	Major Street EB	Major Street WB	Minor Street NB	Minor Street SB
7:00 AM	8:00 AM	45	46	0	0
2nd Highest Hour		40	41	0	0
3rd Highest Hour		35	36	0	0
4th Highest Hour		34	35	0	0
5th Highest Hour		30	31	0	0
6th Highest Hour		30	31	0	0
7th Highest Hour		29	30	0	0
8th Highest Hour		27	27	0	0
9th Highest Hour		25	26	0	0
10th Highest Hour		24	25	0	0
11th Highest Hour		24	24	0	0
12th Highest Hour		24	24	0	0
13th Highest Hour		23	24	0	0
14th Highest Hour		19	20	0	0
15th Highest Hour		19	19	0	0
16th Highest Hour		14	14	0	0
17th Highest Hour		14	14	0	0
18th Highest Hour		9	9	0	0
19th Highest Hour		6	6	0	0
20th Highest Hour		5	5	0	0
21st Highest Hour		2	2	0	0
22nd Highest Hour		2	2	0	0
23rd Highest Hour		2	2	0	0
24th Highest Hour		1	1	0	0

Warrant Summary

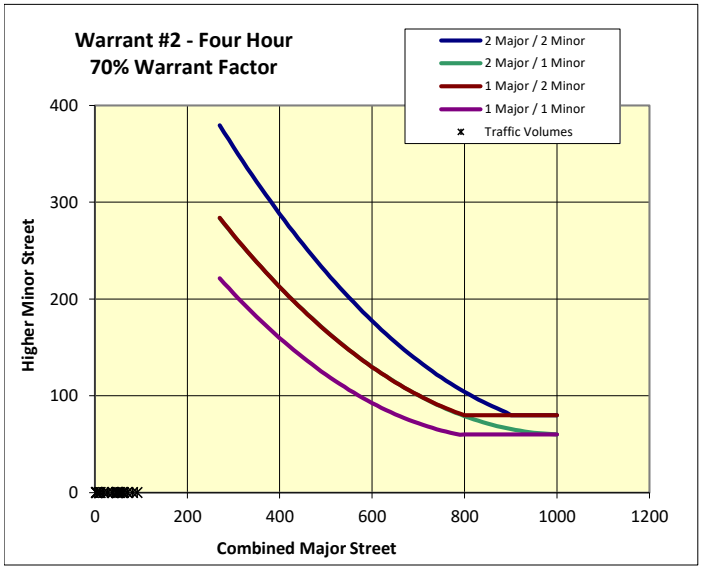
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

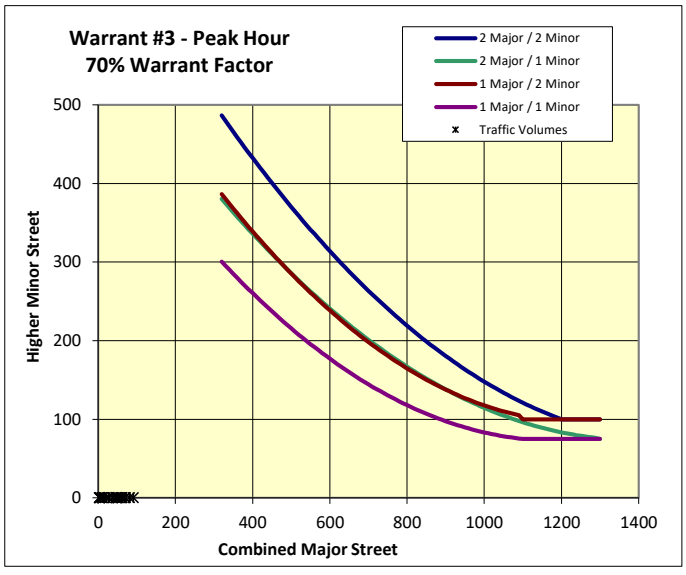
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Minor
East-West Approach =	Major
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	Yes
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	76%
Major Street: 8th-Highest Hour / Peak Hour	59%
Minor Street: 4th-Highest Hour / Peak Hour	66%
Minor Street: 8th-Highest Hour / Peak Hour	52%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	0	No	**No**
	B	600	60	0	No	
70%	A	350	105	0	No	**No**
	B	525	53	0	No	
56%	A	280	84	0	No	**No**
	B	420	42	0	No	





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Project #: 24908
Project Name: Kings County Jackson Ranch TIA
Analyst: MZS
Date: 3/9/2020
File: H:\24\24908 - Kings County Jackson Ranch TIA\analysis\Signal Warrants\Near Term Plus Project\[24908 Signal Warrant
Intersection: 8. Utica Avenue at Frontage Road
Scenario: Near Term Plus Project Fri

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	EB	WB	NB	SB
4:00 PM	5:00 PM	77	89	2	0
2nd Highest Hour		69	79	2	0
3rd Highest Hour		60	69	1	0
4th Highest Hour		59	68	1	0
5th Highest Hour		52	60	1	0
6th Highest Hour		51	59	1	0
7th Highest Hour		50	57	1	0
8th Highest Hour		46	53	1	0
9th Highest Hour		43	50	1	0
10th Highest Hour		41	48	1	0
11th Highest Hour		41	47	1	0
12th Highest Hour		41	47	1	0
13th Highest Hour		40	46	1	0
14th Highest Hour		33	38	1	0
15th Highest Hour		32	37	1	0
16th Highest Hour		23	27	1	0
17th Highest Hour		23	27	0	0
18th Highest Hour		16	18	0	0
19th Highest Hour		10	11	0	0
20th Highest Hour		8	10	0	0
21st Highest Hour		4	5	0	0
22nd Highest Hour		3	4	0	0
23rd Highest Hour		3	4	0	0
24th Highest Hour		2	3	0	0

Warrant Summary

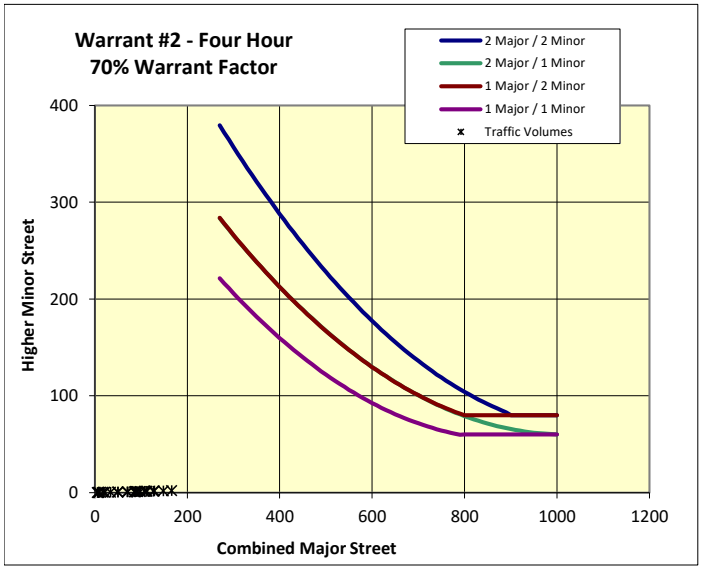
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

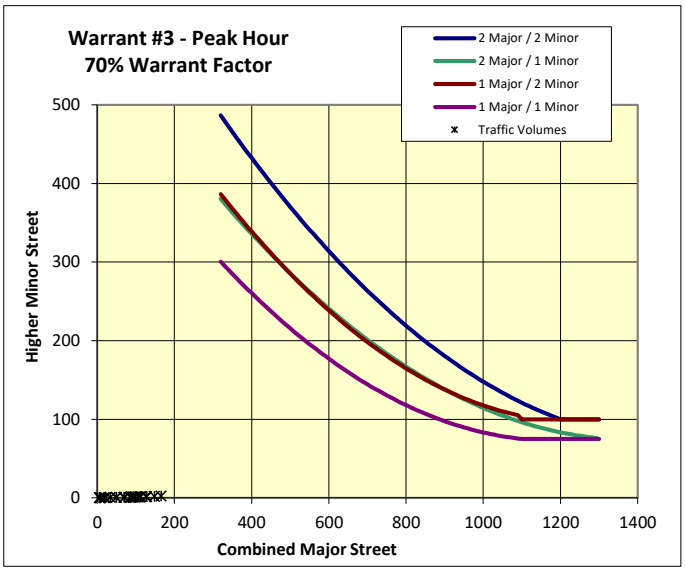
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Minor
East-West Approach =	Major
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	Yes
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	76%
Major Street: 8th-Highest Hour / Peak Hour	59%
Minor Street: 4th-Highest Hour / Peak Hour	66%
Minor Street: 8th-Highest Hour / Peak Hour	52%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	0	No	**No**
	B	600	60	0	No	
70%	A	350	105	0	No	**No**
	B	525	53	0	No	
56%	A	280	84	0	No	**No**
	B	420	42	0	No	





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610 SW Alder, Suite 700
Portland, Oregon 97205
(503) 228-5230

Project #: 24908
Project Name: Kings County Jackson Ranch TIA
Analyst: MZS
Date: 3/9/2020
File: H:\24\24908 - Kings County Jackson Ranch TIA\analysis\Signal Warrants\Near Term Plus Project\[24908 Signal Warrant
Intersection: 8. Utica Avenue at Frontage Road
Scenario: Near Term Plus Project PM

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	EB	WB	NB	SB
4:00 PM	5:00 PM	59	42	0	2
2nd Highest Hour		53	37	0	2
3rd Highest Hour		46	33	0	1
4th Highest Hour		45	32	0	1
5th Highest Hour		40	28	0	1
6th Highest Hour		39	28	0	1
7th Highest Hour		38	27	0	1
8th Highest Hour		35	25	0	1
9th Highest Hour		33	23	0	1
10th Highest Hour		32	23	0	1
11th Highest Hour		31	22	0	1
12th Highest Hour		31	22	0	1
13th Highest Hour		30	22	0	1
14th Highest Hour		25	18	0	1
15th Highest Hour		25	18	0	1
16th Highest Hour		18	13	0	1
17th Highest Hour		18	13	0	0
18th Highest Hour		12	9	0	0
19th Highest Hour		8	5	0	0
20th Highest Hour		6	5	0	0
21st Highest Hour		3	2	0	0
22nd Highest Hour		3	2	0	0
23rd Highest Hour		3	2	0	0
24th Highest Hour		2	1	0	0

Warrant Summary

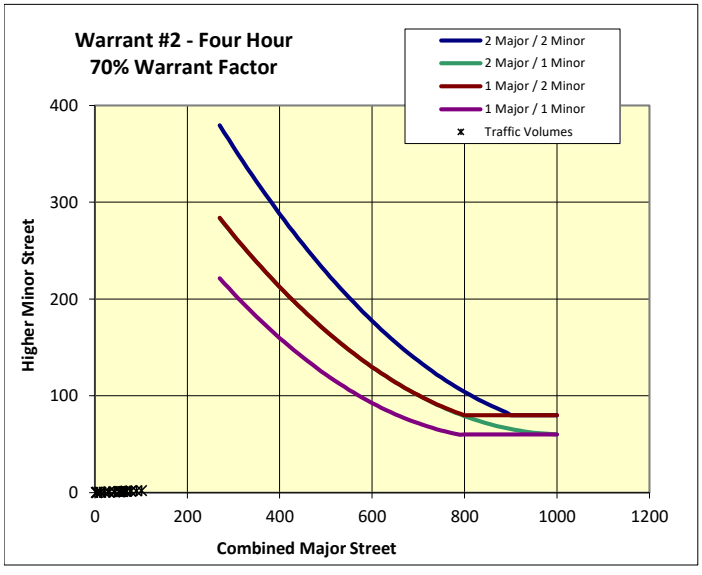
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	No
#2	Four-Hour Vehicular volume	Yes	No
#3	Peak Hour	Yes	No
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

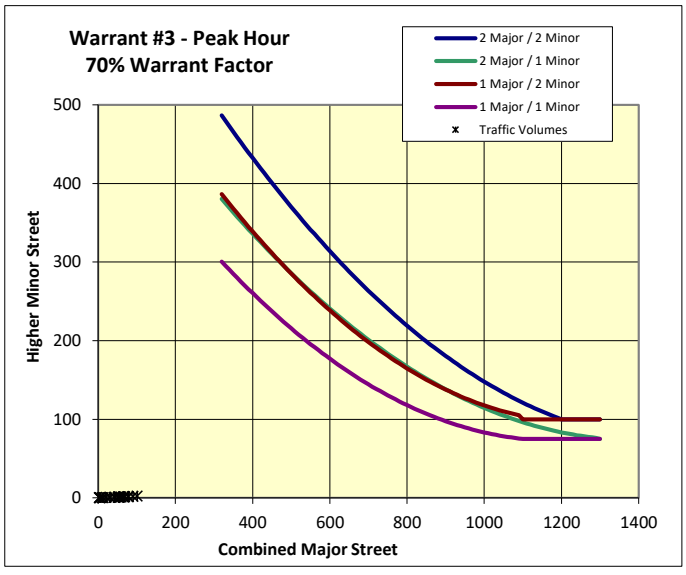
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Minor
East-West Approach =	Major
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	Yes
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	76%
Major Street: 8th-Highest Hour / Peak Hour	59%
Minor Street: 4th-Highest Hour / Peak Hour	66%
Minor Street: 8th-Highest Hour / Peak Hour	52%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	**No**
	B	750	75	0	No	
80%	A	400	120	0	No	**No**
	B	600	60	0	No	
70%	A	350	105	0	No	**No**
	B	525	53	0	No	
56%	A	280	84	0	No	**No**
	B	420	42	0	No	





APPENDIX K: INTERSECTION VOLUMES, DELAY, AND LOS CALCULATION OUTPUTS, MITIGATED

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Report File: H:\...\2040_AM_access.pdf

Scenario 30 BO_AM_access MIT
3/10/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
5	Utica Avenue at South Bound 25th Street	Two-way stop	HCM 6th Edition	NB Left	0.161	110.3	F
6	Utica Avenue at South Bound I-5 Ramps	Roundabout	HCM 6th Edition	SB Right		13.3	B
7	Utica Avenue at North Bound I-5 Ramps	Roundabout	HCM 6th Edition	NB Left		8.0	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 5: Utica Avenue at South Bound 25th Street

Control Type:	Two-way stop	Delay (sec / veh):	110.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.161

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	4	12	14	0	6	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	23.00	23.00	23.00	23.00	23.00	23.00
Growth Factor	1.5160	1.5160	1.5160	1.5160	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	465	0	0	793	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	483	21	0	802	3
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	127	6	0	211	1
Total Analysis Volume [veh/h]	6	508	22	0	844	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	0.51	0.00	0.00	0.58	0.00
d_M, Delay for Movement [s/veh]	110.31	17.58	0.00	0.00	10.72	0.00
Movement LOS	F	C	A	A	B	A
95th-Percentile Queue Length [veh/ln]	5.22	5.22	0.00	0.00	3.87	3.87
95th-Percentile Queue Length [ft/ln]	130.60	130.60	0.00	0.00	96.75	96.75
d_A, Approach Delay [s/veh]	18.67		0.00		10.68	
Approach LOS	C		A		B	
d_I, Intersection Delay [s/veh]	13.48					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 6: Utica Avenue at South Bound I-5 Ramps

Control Type:	Roundabout	Delay (sec / veh):	13.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	15	3	4	0	12	15	0	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	23.00	23.00	23.00	2.00	23.00	23.00	23.00	23.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.5160	1.5160	1.5160	1.0000	1.5160	1.5160	1.5160	1.5160	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	521	0	317	148	0	272	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	23	5	527	0	335	171	0	278	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	6	1	139	0	88	45	0	73	0
Total Analysis Volume [veh/h]	0	0	0	24	5	555	0	353	180	0	293	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1			
Circulating Flow Rate [veh/h]	464			360			36			0			
Exiting Flow Rate [veh/h]	228			0			1043			464			
Demand Flow Rate [veh/h]	0	0	0	23	5	527	0	335	171	0	278	0	
Adjusted Demand Flow Rate [veh/h]	0	0	0	24	5	555	0	353	180	0	293	0	

Lanes

Overwrite Calculated Critical Headway		No	No	No
User-Defined Critical Headway [s]		4.00	4.00	4.00
Overwrite Calculated Follow-Up Time		No	No	No
User-Defined Follow-Up Time [s]		3.00	3.00	3.00
A (intercept)		1380.00	1380.00	1380.00
B (coefficient)		0.00102	0.00102	0.00102
HV Adjustment Factor		0.81	0.81	0.81
Entry Flow Rate [veh/h]		719	656	361
Capacity of Entry and Bypass Lanes [veh/h]		956	1331	1380
Pedestrian Impedance		1.00	1.00	1.00
Capacity per Entry Lane [veh/h]		777	1082	1122
X, volume / capacity		0.75	0.49	0.26

Movement, Approach, & Intersection Results

Lane LOS		C	A	A
95th-Percentile Queue Length [veh]		7.03	2.80	1.05
95th-Percentile Queue Length [ft]		175.83	69.98	26.24
Approach Delay [s/veh]	0.00	21.00	8.98	5.64
Approach LOS	A	C	A	A
Intersection Delay [s/veh]	13.27			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 7: Utica Avenue at North Bound I-5 Ramps

Control Type:	Roundabout	Delay (sec / veh):	8.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	1	8	4	0	0	0	9	22	0	0	3	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	23.00	23.00	23.00	2.00	2.00	2.00	23.00	23.00	2.00	2.00	23.00	23.00
Growth Factor	1.5160	1.5160	1.5160	1.0000	1.0000	1.0000	1.5160	1.5160	1.0000	1.0000	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	215	0	0	0	0	0	292	25	0	0	57	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	217	12	6	0	0	0	306	58	0	0	62	35
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	3	2	0	0	0	81	15	0	0	16	9
Total Analysis Volume [veh/h]	228	13	6	0	0	0	322	61	0	0	65	37
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	471			360			0			692		
Exiting Flow Rate [veh/h]	0			458			360			82		
Demand Flow Rate [veh/h]	217	12	6	0	0	0	306	58	0	0	62	35
Adjusted Demand Flow Rate [veh/h]	228	13	6	0	0	0	322	61	0	0	65	37

Lanes

Overwrite Calculated Critical Headway	No		No	No
User-Defined Critical Headway [s]	4.00		4.00	4.00
Overwrite Calculated Follow-Up Time	No		No	No
User-Defined Follow-Up Time [s]	3.00		3.00	3.00
A (intercept)	1380.00		1380.00	1380.00
B (coefficient)	0.00102		0.00102	0.00102
HV Adjustment Factor	0.81		0.81	0.81
Entry Flow Rate [veh/h]	304		472	126
Capacity of Entry and Bypass Lanes [veh/h]	854		1380	681
Pedestrian Impedance	1.00		1.00	1.00
Capacity per Entry Lane [veh/h]	694		1122	554
X, volume / capacity	0.36		0.34	0.18

Movement, Approach, & Intersection Results

Lane LOS	A		A	A
95th-Percentile Queue Length [veh]	1.61		1.53	0.67
95th-Percentile Queue Length [ft]	40.29		38.24	16.74
Approach Delay [s/veh]	9.81	0.00	6.57	8.89
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.98			
Intersection LOS	A			

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3/10/2020

Turning Movement Volume: Summary

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
5	Utica Avenue at South Bound 25th Street	6	483	21	0	802	3	1315

ID	Intersection Name	Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Thru	Right	Left	Thru	
6	Utica Avenue at South Bound I-5 Ramps	23	5	527	335	171	0	278	1339

ID	Intersection Name	Northbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Thru	Right	
7	Utica Avenue at North Bound I-5 Ramps	217	12	6	306	58	62	35	696

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Report File: H:\...\2040_AM_access.pdf

Scenario 30 BO_AM_access MIT
3/10/2020

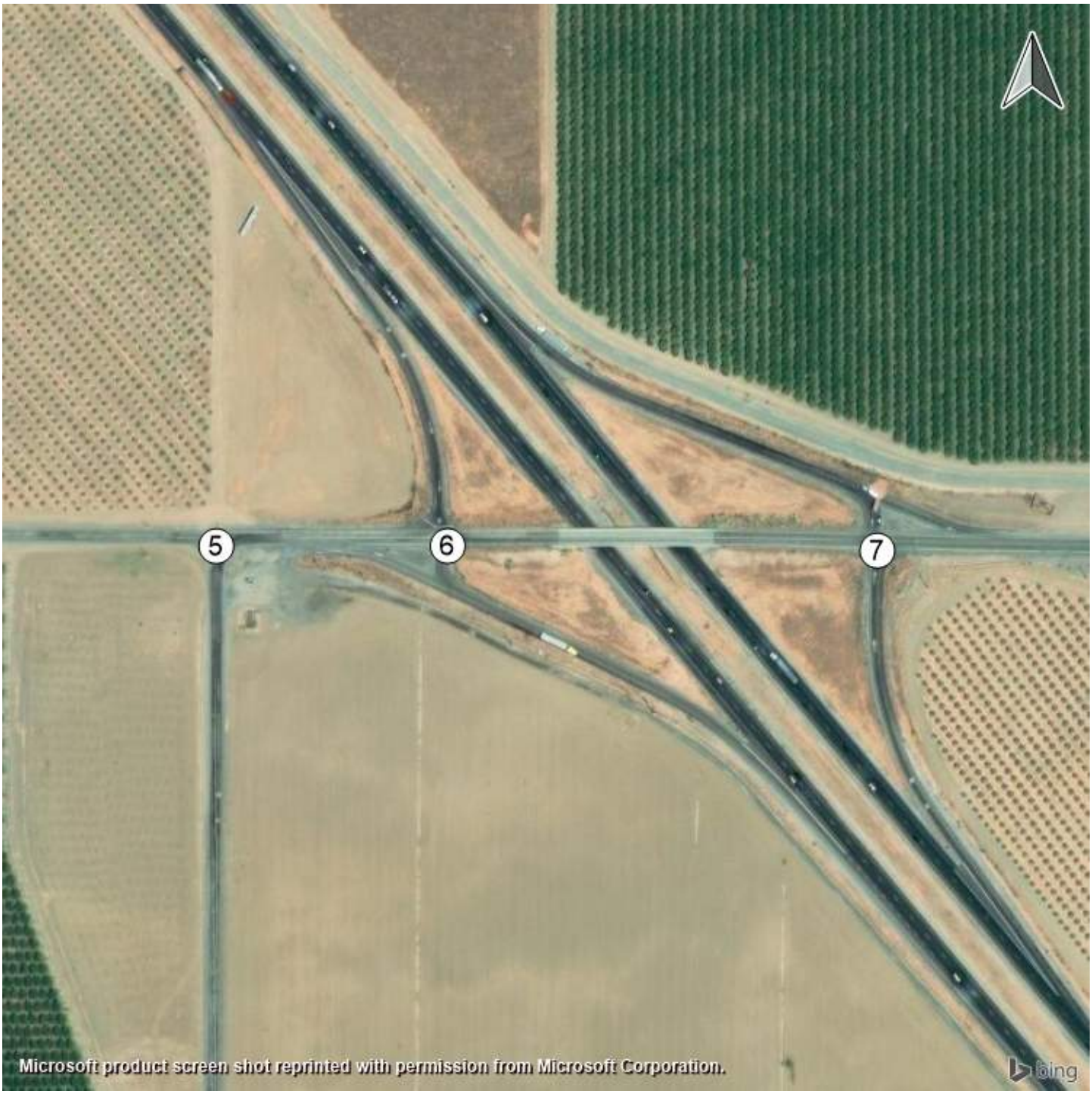
Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound		Eastbound		Westbound		Total Volume
			Left	Right	Thru	Right	Left	Thru	
5	Utica Avenue at South Bound 25th Street	Final Base	4	12	14	0	6	2	38
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	465	0	0	793	0	1258
		Other	0	0	0	0	0	0	0
		Future Total	**6**	**483**	**21**	**0**	**802**	**3**	**1315**

ID	Intersection Name	Volume Type	Southbound			Eastbound		Westbound		Total Volume
			Left	Thru	Right	Thru	Right	Left	Thru	
6	Utica Avenue at South Bound I-5 Ramps	Final Base	15	3	4	12	15	0	4	53
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	0	521	317	148	0	272	1258
		Other	0	0	0	0	0	0	0	0
		Future Total	**23**	**5**	**527**	**335**	**171**	**0**	**278**	**1339**

ID	Intersection Name	Volume Type	Northbound			Eastbound		Westbound		Total Volume
			Left	Thru	Right	Left	Thru	Thru	Right	
7	Utica Avenue at North Bound I-5 Ramps	Final Base	1	8	4	9	22	3	23	70
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	215	0	0	292	25	57	0	589
		Other	0	0	0	0	0	0	0	0
		Future Total	**217**	**12**	**6**	**306**	**58**	**62**	**35**	**696**

Study Intersections



Traffic Volume - Net New Site Trips



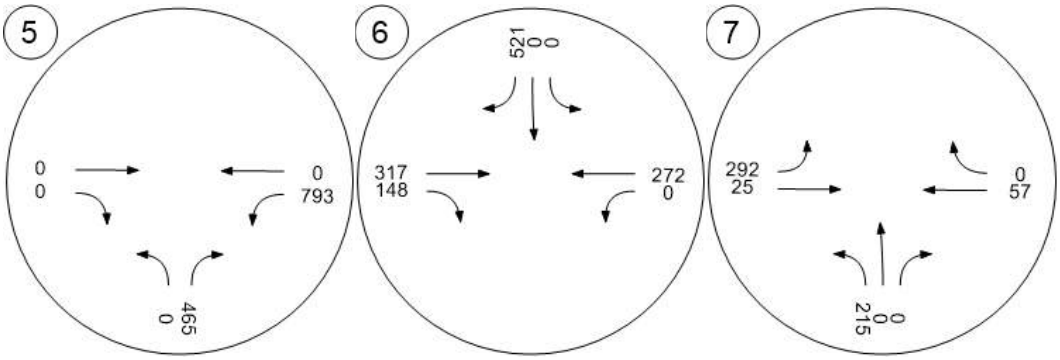


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Report File: H:\...\2040_Fri_areawide.pdf
Scenario 33 BO_AM_area MIT
4/15/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	South Bound I-5 at SR-41 Ramps	Signalized	HCM 6th Edition	EB Right	0.363	21.8	C
2	North Bound I-5 at SR-41 Ramps	Two-way stop	HCM 6th Edition	WB Thru	0.008	16.1	C
3	Bernard Drive at SR-41	Roundabout	HCM 6th Edition	EB Right		6.1	A
4	25th Avenue at SR-41	Two-way stop	HCM 6th Edition	WB Left	0.052	16.1	C
8	Utica Avenue at Frontage Road	Two-way stop	HCM 6th Edition	WB Thru	0.001	0.0	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: South Bound I-5 at SR-41 Ramps

Control Type:	Signalized	Delay (sec / veh):	21.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.363

Intersection Setup

Name													
Approach	Northbound			Southbound				Eastbound			Westbound		
Lane Configuration													
Turning Movement	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.0	12.0	12.0	12.0	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.	100.	100.	100.	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00				30.00			30.00		
Grade [%]	0.00			0.00				0.00			0.00		
Curb Present	No			No				No					
Crosswalk	Yes			Yes				Yes			Yes		

Volumes

Name													
Base Volume Input [veh/h]	0	102	5	2	67	146	0	69	2	18	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	23.00	23.00	23.0	23.0	23.0	2.00	23.00	23.00	23.00	2.00	2.00	2.00
Growth Factor	1.0000	1.5160	1.5160	1.51	1.51	1.51	1.00	1.5160	1.5160	1.5160	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	57	0	170	25	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	155	65	3	272	246	0	105	3	27	0	0	0
Peak Hour Factor	1.0000	0.9500	0.9500	0.95	0.95	0.95	1.00	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.00	1.00	1.00	1.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	41	17	1	72	65	0	28	1	7	0	0	0
Total Analysis Volume [veh/h]	0	163	68	3	286	259	0	111	3	28	0	0	0
Presence of On-Street Parking	No		No	No			No	No		No			
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree		0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [		0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor stree		0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [		0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0		
Bicycle Volume [bicycles/h]		0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permis	Permis	Permis	Perm	Prote	Perm	Perm	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	0	2	0	0	1	6	0	0	4	0	0	0	0
Auxiliary Signal Groups													
Lead / Lag	-	-	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	5	0	0	5	0	0	0	0
Maximum Green [s]	0	30	0	0	30	30	0	0	30	0	0	0	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Split [s]	0	15	0	0	28	43	0	0	27	0	0	0	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Walk [s]	0	5	0	0	0	5	0	0	5	0	0	0	0
Pedestrian Clearance [s]	0	6	0	0	0	6	0	0	18	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No				No			No				
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Minimum Recall		No			No	No			No				
Maximum Recall		No			No	No			No				
Pedestrian Recall		No			No	No			No				
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	L	C	L	C	
C, Cycle Length [s]	70	70	70	70	70	70	70	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	35	35	18	18	56	6	6	
g / C, Green / Cycle	0.50	0.50	0.25	0.25	0.80	0.08	0.08	
(v / s)_i Volume / Saturation Flow Rate	0.08	0.09	0.22	0.21	0.10	0.05	0.06	
s, saturation flow rate [veh/h]	1399	1268	1333	1333	2664	1333	1274	
c, Capacity [veh/h]	693	628	336	336	2142	109	105	
d1, Uniform Delay [s]	9.74	9.84	25.07	24.99	1.49	31.23	31.27	
k, delay calibration	0.50	0.50	0.11	0.11	0.50	0.11	0.11	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.52	0.65	6.52	6.13	0.12	6.53	7.24	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.17	0.18	0.86	0.85	0.12	0.66	0.67	
d, Delay for Lane Group [s/veh]	10.26	10.48	31.59	31.12	1.61	37.75	38.50	
Lane Group LOS	B	B	C	C	A	D	D	
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	
50th-Percentile Queue Length [veh/ln]	0.97	0.99	4.92	4.83	0.17	1.34	1.32	
50th-Percentile Queue Length [ft/ln]	24.28	24.80	123.03	120.70	4.16	33.41	33.09	
95th-Percentile Queue Length [veh/ln]	1.75	1.79	8.56	8.43	0.30	2.41	2.38	
95th-Percentile Queue Length [ft/ln]	43.70	44.65	213.99	210.78	7.49	60.15	59.57	

Movement, Approach, & Intersection Results

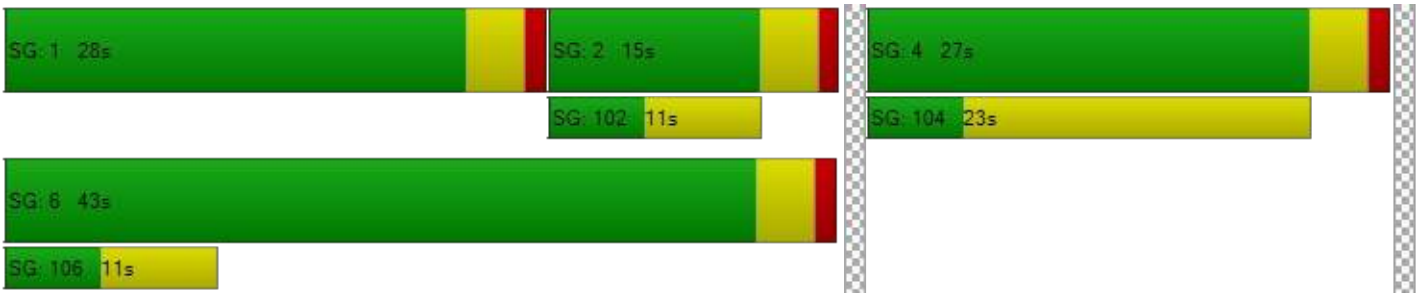
d_M, Delay for Movement [s/veh]	0.00	10.33	10.48	31.5	31.3	1.61	0.00	38.02	38.50	38.50	0.00	0.00	0.00
Movement LOS		B	B	C	C	A		D	D	D			
d_A, Approach Delay [s/veh]	10.37			22.12				38.12			0.00		
Approach LOS	B			C				D			A		
d_I, Intersection Delay [s/veh]	21.75												
Intersection LOS	C												
Intersection V/C	0.363												

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.58	26.58	26.58	26.58
l_p,int, Pedestrian LOS Score for Intersection	2.246	2.575	1.975	1.878
Crosswalk LOS	B	B	A	A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	314	1114	657	0
d_b, Bicycle Delay [s]	24.86	6.86	15.78	35.00
l_b,int, Bicycle LOS Score for Intersection	1.750	1.776	1.794	4.132
Bicycle LOS	A	A	A	D

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: North Bound I-5 at SR-41 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	16.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	24	149	0	0	186	63	0	0	0	27	2	85
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	23.00	23.00	23.00	23.00	23.00	23.00	2.00	2.00	2.00	23.00	23.00	23.00
Growth Factor	1.5160	1.5160	1.5160	1.5160	1.5160	1.5160	1.0000	1.0000	1.0000	1.5160	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	170	0	0	0	0	25	0	73
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	226	0	0	452	96	0	0	0	66	3	202
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	59	0	0	119	25	0	0	0	17	1	53
Total Analysis Volume [veh/h]	38	238	0	0	476	101	0	0	0	69	3	213
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance				Yes
Number of Storage Spaces in Median	0	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.01	0.25
d_M, Delay for Movement [s/veh]	9.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.41	16.06	10.67
Movement LOS	A	A			A	A				B	C	B
95th-Percentile Queue Length [veh/ln]	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.51	1.00
95th-Percentile Queue Length [ft/ln]	3.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.67	12.67	24.88
d_A, Approach Delay [s/veh]	1.29			0.00			0.00			11.39		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	3.17											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: Bernard Drive at SR-41

Control Type:	Roundabout	Delay (sec / veh):	6.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name														
Approach	Northbound				Southbound				Eastbound			Westbound		
Lane Configuration														
Turning Movement	U-tu	Left	Thru	Right	U-tu	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	1	1	0	0
Entry Pocket Length [ft]	100.	100.	100.	100.	100.	100.	100.	100.	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.2	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00				30.00				30.00			30.00		
Grade [%]	0.00				0.00				0.00			0.00		
Crosswalk	No				Yes				No			No		

Volumes

Name														
Base Volume Input [veh/h]	39	39	115	21	0	43	132	8	5	10	38	49	5	18
Base Volume Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.00	23.00	23.00	23.00	23.00	23.00
Growth Factor	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.5160	1.5160	1.5160	1.5160	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	73	0	0	0	170	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	59	59	247	32	0	65	370	12	8	15	58	74	8	27
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	16	65	8	0	17	97	3	2	4	15	19	2	7
Total Analysis Volume [veh/h]	62	62	260	34	0	68	389	13	8	16	61	78	8	28
Pedestrian Volume [ped/h]	0				0				0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1				1				1			1		
Circulating Flow Rate [veh/h]	113				258				734			482		
Exiting Flow Rate [veh/h]	726				364				102			145		
Demand Flow Rate [veh/h]	59	59	247	32	0	65	370	12	8	15	58	74	8	27
Adjusted Demand Flow Rate [veh/h]	62	62	260	34	0	68	389	13	8	16	61	78	8	28

Lanes

Overwrite Calculated Critical Headway	No	No	No	No	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00	1420.00
B (coefficient)	0.00091	0.00091	0.00091	0.00091	0.00091	0.00091	0.00091	0.00091
HV Adjustment Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Entry Flow Rate [veh/h]	242	273	272	307	30	76	96	45
Capacity of Entry and Bypass Lanes [veh/h]	1282	1282	1123	1123	728	728	916	916
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1042	1042	913	913	592	592	745	745
X, volume / capacity	0.19	0.21	0.24	0.27	0.04	0.10	0.10	0.05

Movement, Approach, & Intersection Results

Lane LOS	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh]	0.69	0.80	0.95	1.11	0.13	0.34	0.35	0.15
95th-Percentile Queue Length [ft]	17.32	20.11	23.69	27.78	3.16	8.57	8.74	3.80
Approach Delay [s/veh]	5.33		6.61		7.08		5.73	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	6.06							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 4: 25th Avenue at SR-41

Control Type:	Two-way stop	Delay (sec / veh):	16.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.052

Intersection Setup

Name						
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	113	4	8	181	11	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	23.00	23.00	23.00	23.00	23.00	23.00
Growth Factor	1.5160	1.5160	1.5160	1.5160	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	73	0	0	170	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	244	6	12	444	17	30
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	64	2	3	117	4	8
Total Analysis Volume [veh/h]	257	6	13	467	18	32
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.05	0.04
d_M, Delay for Movement [s/veh]	0.00	0.00	8.06	0.00	16.05	10.15
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.03	0.03	0.17	0.14
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.83	0.83	4.13	3.43
d_A, Approach Delay [s/veh]	0.00		0.22		12.28	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.91					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 8: Utica Avenue at Frontage Road

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	23	24	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	23.00	23.00	23.00	23.00	23.00	23.00
Growth Factor	1.5160	1.5160	1.5160	1.5160	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	25	57	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	60	93	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	16	24	0
Total Analysis Volume [veh/h]	0	0	0	63	98	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.60	8.98	7.62	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.29		0.00		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

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Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound		Southbound			Eastbound			Total Volume
			Thru	Right	U-T	Left	Thru	Left	Thru	Right	
1	South Bound I-5 at SR-41 Ramps	Final Base	102	5	2	67	146	69	2	18	411
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0	0	0
		Net New Trips	0	57	0	170	25	0	0	0	252
		Other	0	0	0	0	0	0	0	0	0
		Future Total	**155**	**65**	**3**	**272**	**246**	**105**	**3**	**27**	**876**

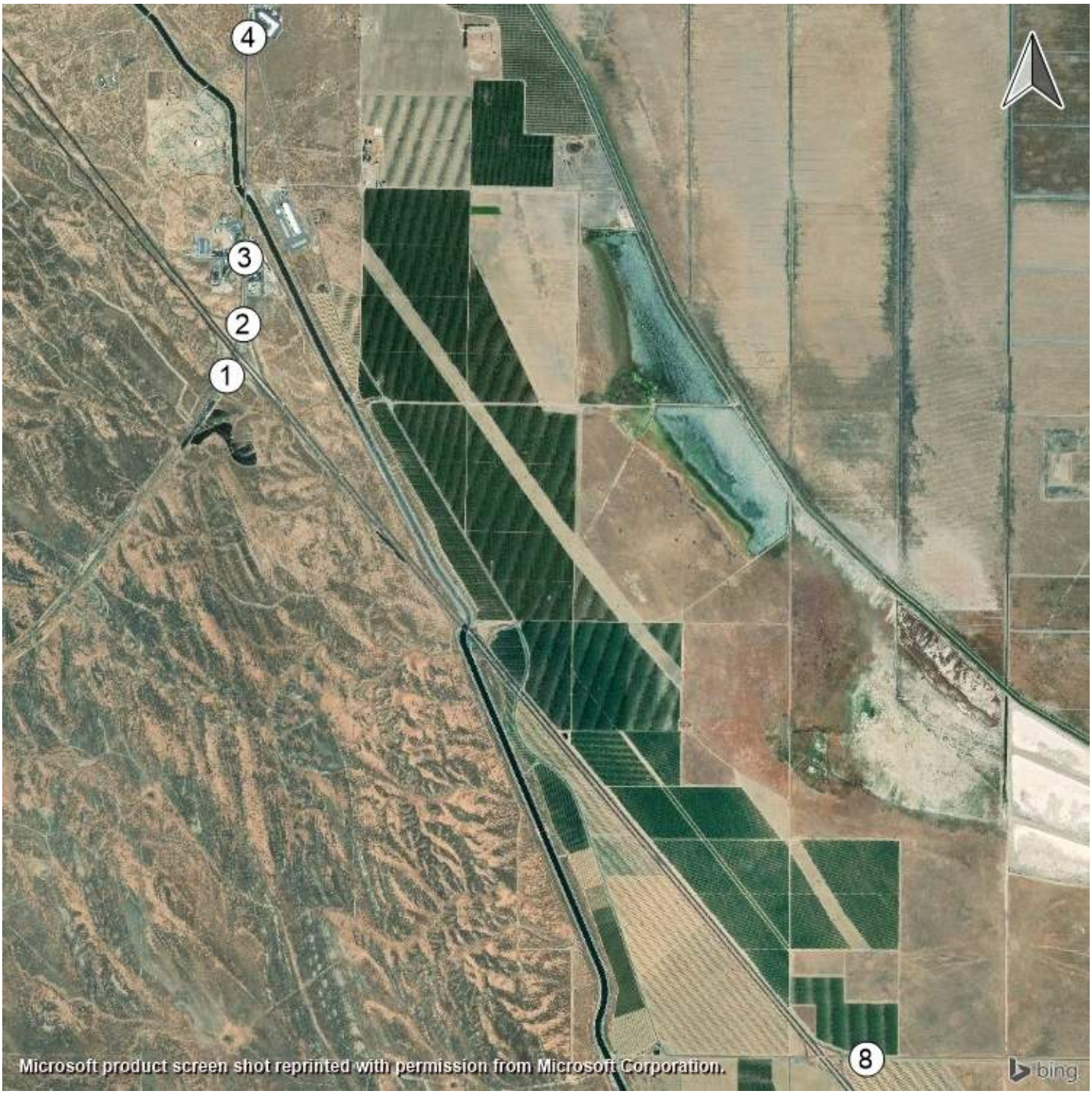
ID	Intersection Name	Volume Type	Northbound		Southbound		Westbound			Total Volume
			Left	Thru	Thru	Right	Left	Thru	Right	
2	North Bound I-5 at SR-41 Ramps	Final Base	24	149	186	63	27	2	85	536
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	0	170	0	25	0	73	268
		Other	0	0	0	0	0	0	0	0
		Future Total	**36**	**226**	**452**	**96**	**66**	**3**	**202**	**1081**

ID	Intersection Name	Volume Type	Northbound				Southbound				Eastbound			Westbound			Total Volume
			U-T	Left	Thru	Right	U-T	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Bernard Drive at SR-41	Final Base	39	39	115	21	0	43	132	8	5	10	38	49	5	18	522
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	73	0	0	0	170	0	0	0	0	0	0	0	243
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	**59**	**59**	**247**	**32**	**0**	**65**	**370**	**12**	**8**	**15**	**58**	**74**	**8**	**27**	**1034**

ID	Intersection Name	Volume Type	Northbound		Southbound		Westbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
4	25th Avenue at SR-41	Final Base	113	4	8	181	11	20	337
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	73	0	0	170	0	0	243
		Other	0	0	0	0	0	0	0
		Future Total	**244**	**6**	**12**	**444**	**17**	**30**	**753**

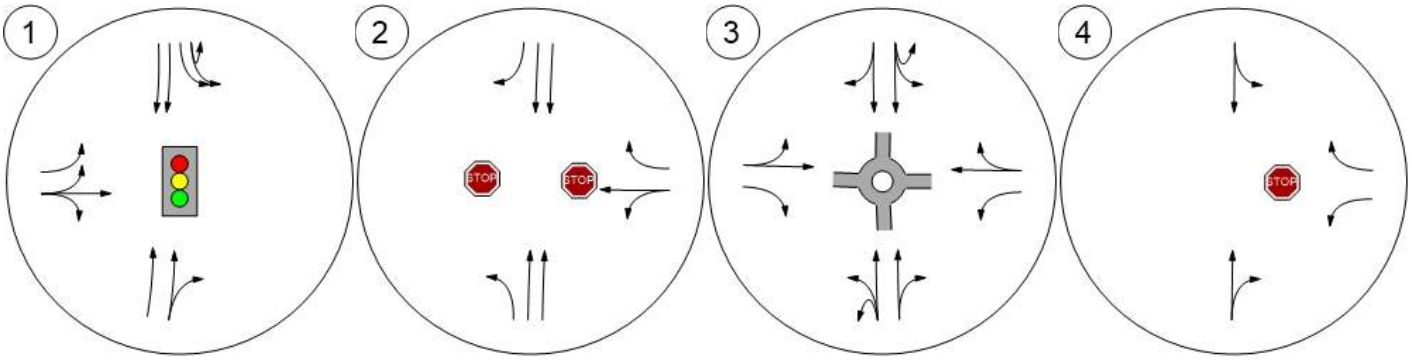
ID	Intersection Name	Volume Type	Southbound		Eastbound		Westbound		Total Volume
			Left	Right	Left	Thru	Thru	Right	
8	Utica Avenue at Frontage Road	Final Base	0	0	0	23	24	0	47
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	25	57	0	82
		Other	0	0	0	0	0	0	0
		Future Total	**0**	**0**	**0**	**60**	**93**	**0**	**153**

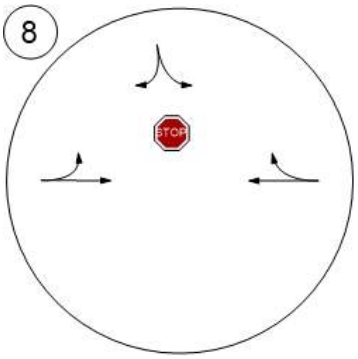
Study Intersections



Lane Configuration and Traffic Control

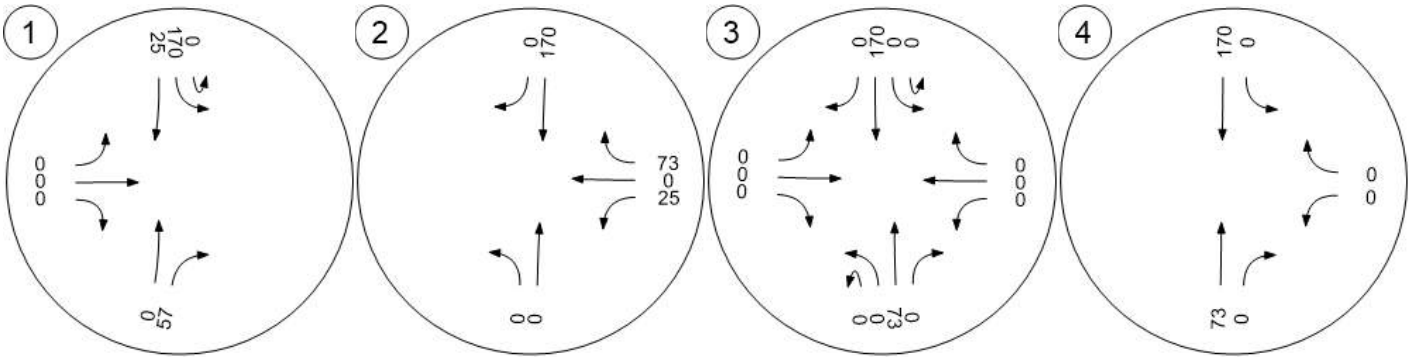






Traffic Volume - Net New Site Trips





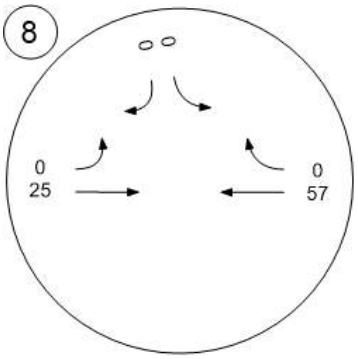


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3/10/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
5	Utica Avenue at South Bound 25th Street	Roundabout	HCM 6th Edition	NB Right		14.1	B
6	Utica Avenue at South Bound I-5 Ramps	Two-way stop	HCM 6th Edition	SB Thru	0.057	47.6	E
7	Utica Avenue at North Bound I-5 Ramps	Roundabout	HCM 6th Edition	NB Left		12.0	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 5: Utica Avenue at South Bound 25th Street

Control Type:	Roundabout	Delay (sec / veh):	14.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	33	77	7	4	5	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.00	11.00	11.00	11.00	11.00	11.00
Growth Factor	1.5160	1.5160	1.5160	1.5160	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	854	0	0	605	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	971	11	6	613	11
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	256	3	2	161	3
Total Analysis Volume [veh/h]	53	1022	12	6	645	12
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	13		716		59	
Exiting Flow Rate [veh/h]	723		72		1148	
Demand Flow Rate [veh/h]	50	971	11	6	613	11
Adjusted Demand Flow Rate [veh/h]	53	1022	12	6	645	12

Lanes

Overwrite Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Overwrite Calculated Follow-Up Time	No	No	No	No
User-Defined Follow-Up Time [s]	3.00	3.00	3.00	3.00
A (intercept)	1420.00	1420.00	1380.00	1380.00
B (coefficient)	0.00091	0.00091	0.00102	0.00102
HV Adjustment Factor	0.90	0.90	0.90	0.90
Entry Flow Rate [veh/h]	59	1135	20	730
Capacity of Entry and Bypass Lanes [veh/h]	1403	1403	665	1300
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1264	1264	599	1171
X, volume / capacity	0.04	0.81	0.03	0.56

Movement, Approach, & Intersection Results

Lane LOS	A	C	A	A
95th-Percentile Queue Length [veh]	0.13	9.62	0.09	3.63
95th-Percentile Queue Length [ft]	3.28	240.43	2.32	90.77
Approach Delay [s/veh]	16.89		6.35	9.74
Approach LOS	C		A	A
Intersection Delay [s/veh]	14.09			
Intersection LOS	B			

Intersection Level Of Service Report
Intersection 6: Utica Avenue at South Bound I-5 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	47.6
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.057

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	21	6	5	0	76	7	1	7	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	11.00	11.00	11.00	2.00	11.00	11.00	11.00	11.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.5160	1.5160	1.5160	1.0000	1.5160	1.5160	1.5160	1.5160	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	386	0	624	230	0	219	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	32	9	394	0	739	241	2	230	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	8	2	104	0	194	63	1	61	0
Total Analysis Volume [veh/h]	0	0	0	34	9	415	0	778	254	2	242	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop			Stop			Free			Free		
Flared Lane				No								
Storage Area [veh]	0			0			0			0		
Two-Stage Gap Acceptance				No								
Number of Storage Spaces in Median	0			0			0			0		

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.20	0.06	0.54	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	46.46	47.59	29.59	0.00	0.00	0.00	10.65	0.00	0.00
Movement LOS				E	E	D		A	A	B	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	7.66	7.66	7.66	0.00	0.00	0.00	0.01	0.01	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	191.59	191.59	191.59	0.00	0.00	0.00	0.24	0.24	0.00
d_A, Approach Delay [s/veh]	0.00			31.20			0.00			0.09		
Approach LOS	A			D			A			A		
d_I, Intersection Delay [s/veh]	8.25											
Intersection LOS	E											

Intersection Level Of Service Report
Intersection 7: Utica Avenue at North Bound I-5 Ramps

Control Type:	Roundabout	Delay (sec / veh):	12.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes		

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	1	2	5	0	0	0	58	38	0	0	10	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.00	11.00	11.00	2.00	2.00	2.00	11.00	11.00	2.00	2.00	11.00	11.00
Growth Factor	1.5160	1.5160	1.5160	1.0000	1.0000	1.0000	1.5160	1.5160	1.0000	1.0000	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	184	0	0	0	0	0	562	62	0	0	35	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	186	3	8	0	0	0	650	120	0	0	50	65
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	1	2	0	0	0	171	32	0	0	13	17
Total Analysis Volume [veh/h]	196	3	8	0	0	0	684	126	0	0	53	68
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	899			276			0			980		
Exiting Flow Rate [veh/h]	0			838			276			149		
Demand Flow Rate [veh/h]	186	3	8	0	0	0	650	120	0	0	50	65
Adjusted Demand Flow Rate [veh/h]	196	3	8	0	0	0	684	126	0	0	53	68

Lanes

Overwrite Calculated Critical Headway	No		No	No
User-Defined Critical Headway [s]	4.00		4.00	4.00
Overwrite Calculated Follow-Up Time	No		No	No
User-Defined Follow-Up Time [s]	3.00		3.00	3.00
A (intercept)	1380.00		1380.00	1380.00
B (coefficient)	0.00102		0.00102	0.00102
HV Adjustment Factor	0.90		0.90	0.90
Entry Flow Rate [veh/h]	230		900	135
Capacity of Entry and Bypass Lanes [veh/h]	552		1380	508
Pedestrian Impedance	1.00		1.00	1.00
Capacity per Entry Lane [veh/h]	497		1244	458
X, volume / capacity	0.42		0.65	0.26

Movement, Approach, & Intersection Results

Lane LOS	B		B	B
95th-Percentile Queue Length [veh]	2.03		5.12	1.05
95th-Percentile Queue Length [ft]	50.71		128.10	26.31
Approach Delay [s/veh]	14.40	0.00	11.39	12.00
Approach LOS	B	A	B	B
Intersection Delay [s/veh]	12.00			
Intersection LOS	B			

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Turning Movement Volume: Summary

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
5	Utica Avenue at South Bound 25th Street	50	971	11	6	613	11	1662

ID	Intersection Name	Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Thru	Right	Left	Thru	
6	Utica Avenue at South Bound I-5 Ramps	32	9	394	739	241	2	230	1647

ID	Intersection Name	Northbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Thru	Right	
7	Utica Avenue at North Bound I-5 Ramps	186	3	8	650	120	50	65	1082

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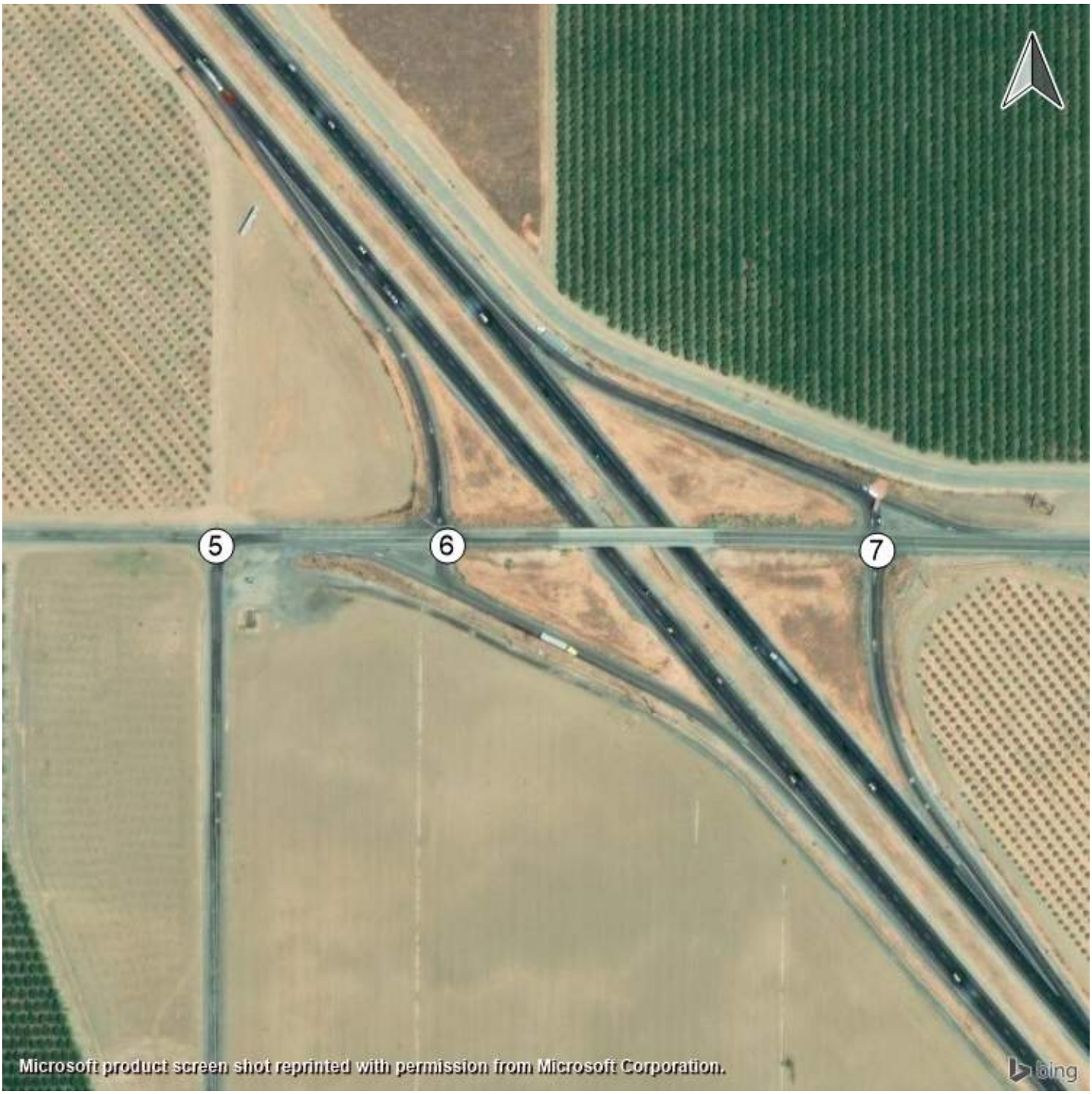
Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound		Eastbound		Westbound		Total Volume
			Left	Right	Thru	Right	Left	Thru	
5	Utica Avenue at South Bound 25th Street	Final Base	33	77	7	4	5	7	133
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	854	0	0	605	0	1459
		Other	0	0	0	0	0	0	0
		Future Total	**50**	**971**	**11**	**6**	**613**	**11**	**1662**

ID	Intersection Name	Volume Type	Southbound			Eastbound		Westbound		Total Volume
			Left	Thru	Right	Thru	Right	Left	Thru	
6	Utica Avenue at South Bound I-5 Ramps	Final Base	21	6	5	76	7	1	7	123
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	0	386	624	230	0	219	1459
		Other	0	0	0	0	0	0	0	0
		Future Total	**32**	**9**	**394**	**739**	**241**	**2**	**230**	**1647**

ID	Intersection Name	Volume Type	Northbound			Eastbound		Westbound		Total Volume
			Left	Thru	Right	Left	Thru	Thru	Right	
7	Utica Avenue at North Bound I-5 Ramps	Final Base	1	2	5	58	38	10	43	157
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	184	0	0	562	62	35	0	843
		Other	0	0	0	0	0	0	0	0
		Future Total	**186**	**3**	**8**	**650**	**120**	**50**	**65**	**1082**

Study Intersections



Traffic Volume - Net New Site Trips



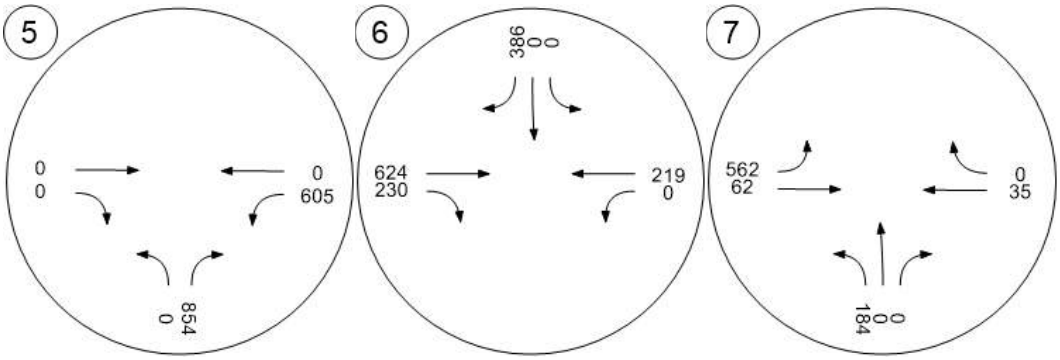


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Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
5	Utica Avenue at South Bound 25th Street	Two-way stop	HCM 6th Edition	NB Left	0.058	43.9	E
6	Utica Avenue at South Bound I-5 Ramps	Two-way stop	HCM 6th Edition	SB Thru	0.022	27.8	D
7	Utica Avenue at North Bound I-5 Ramps	Roundabout	HCM 6th Edition	NB Left		9.1	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 5: Utica Avenue at South Bound 25th Street

Control Type:	Two-way stop	Delay (sec / veh):	43.9
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.058

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	6	14	5	2	4	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	13.00	13.00	13.00	13.00	13.00	13.00
Growth Factor	1.5160	1.5160	1.5160	1.5160	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	750	0	0	494	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	771	8	3	500	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	203	2	1	132	1
Total Analysis Volume [veh/h]	9	812	8	3	526	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.78	0.00	0.00	0.34	0.00
d_M, Delay for Movement [s/veh]	43.93	24.14	0.00	0.00	8.55	0.00
Movement LOS	E	C	A	A	A	A
95th-Percentile Queue Length [veh/ln]	10.25	10.25	0.00	0.00	1.54	1.54
95th-Percentile Queue Length [ft/ln]	256.20	256.20	0.00	0.00	38.47	38.47
d_A, Approach Delay [s/veh]	24.36		0.00		8.52	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	18.01					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 6: Utica Avenue at South Bound I-5 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	27.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.022

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	21	3	2	0	19	1	0	3	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	13.00	13.00	13.00	2.00	13.00	13.00	13.00	13.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.5160	1.5160	1.5160	1.0000	1.5160	1.5160	1.5160	1.5160	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	316	0	554	196	0	178	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	32	5	319	0	583	198	0	183	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	8	1	84	0	153	52	0	48	0
Total Analysis Volume [veh/h]	0	0	0	34	5	336	0	614	208	0	193	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane		No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.14	0.02	0.41	0.00	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	26.79	27.81	16.41	0.00	0.00	0.00	9.73	0.00	0.00
Movement LOS				D	D	C		A	A	A	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	3.62	3.62	3.62	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	90.38	90.38	90.38	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			17.50			0.00			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	4.72											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 7: Utica Avenue at North Bound I-5 Ramps

Control Type:	Roundabout	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	1	4	2	0	0	0	10	31	0	0	2	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	13.00	13.00	13.00	2.00	2.00	2.00	13.00	13.00	2.00	2.00	13.00	13.00
Growth Factor	1.5160	1.5160	1.5160	1.0000	1.0000	1.0000	1.5160	1.5160	1.0000	1.0000	1.5160	1.5160
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	148	0	0	0	0	0	497	57	0	0	30	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	150	6	3	0	0	0	512	104	0	0	33	26
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	2	1	0	0	0	135	27	0	0	9	7
Total Analysis Volume [veh/h]	158	6	3	0	0	0	539	109	0	0	35	27
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Number of Conflicting Circulating Lanes	1			1			1			1		
Circulating Flow Rate [veh/h]	732			218			0			794		
Exiting Flow Rate [veh/h]	0			646			218			127		
Demand Flow Rate [veh/h]	150	6	3	0	0	0	512	104	0	0	33	26
Adjusted Demand Flow Rate [veh/h]	158	6	3	0	0	0	539	109	0	0	35	27

Lanes

Overwrite Calculated Critical Headway	No		No	No
User-Defined Critical Headway [s]	4.00		4.00	4.00
Overwrite Calculated Follow-Up Time	No		No	No
User-Defined Follow-Up Time [s]	3.00		3.00	3.00
A (intercept)	1380.00		1380.00	1380.00
B (coefficient)	0.00102		0.00102	0.00102
HV Adjustment Factor	0.88		0.88	0.88
Entry Flow Rate [veh/h]	189		733	71
Capacity of Entry and Bypass Lanes [veh/h]	654		1380	614
Pedestrian Impedance	1.00		1.00	1.00
Capacity per Entry Lane [veh/h]	579		1222	544
X, volume / capacity	0.29		0.53	0.11

Movement, Approach, & Intersection Results

Lane LOS	B		A	A
95th-Percentile Queue Length [veh]	1.19		3.24	0.38
95th-Percentile Queue Length [ft]	29.74		81.11	9.60
Approach Delay [s/veh]	10.17	0.00	8.88	8.05
Approach LOS	B	A	A	A
Intersection Delay [s/veh]	9.07			
Intersection LOS	A			

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Turning Movement Volume: Summary

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
5	Utica Avenue at South Bound 25th Street	9	771	8	3	500	2	1293

ID	Intersection Name	Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Thru	Right	Left	Thru	
6	Utica Avenue at South Bound I-5 Ramps	32	5	319	583	198	0	183	1320

ID	Intersection Name	Northbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Thru	Right	
7	Utica Avenue at North Bound I-5 Ramps	150	6	3	512	104	33	26	834

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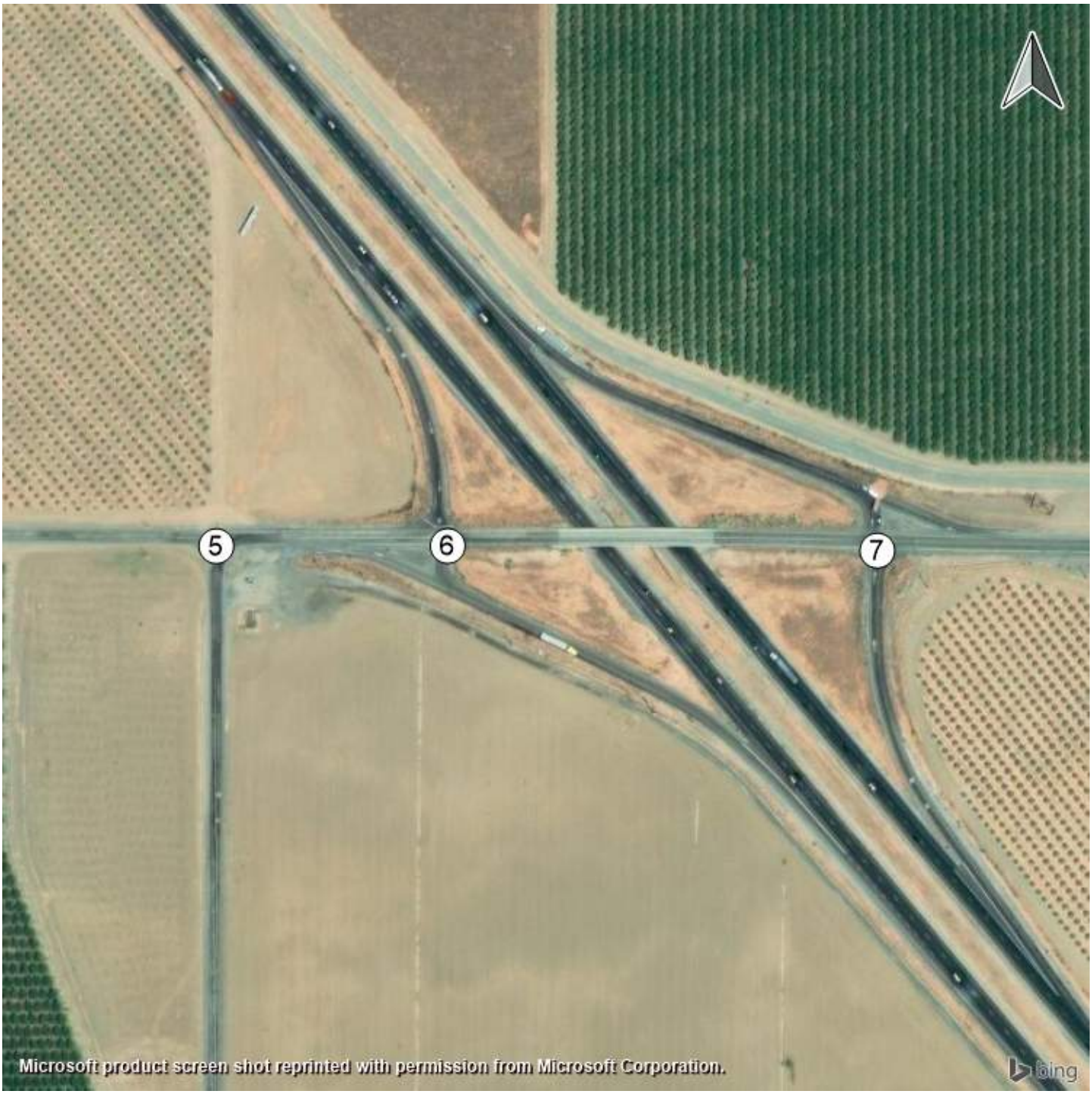
Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound		Eastbound		Westbound		Total Volume
			Left	Right	Thru	Right	Left	Thru	
5	Utica Avenue at South Bound 25th Street	Final Base	6	14	5	2	4	1	32
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	750	0	0	494	0	1244
		Other	0	0	0	0	0	0	0
		Future Total	**9**	**771**	**8**	**3**	**500**	**2**	**1293**

ID	Intersection Name	Volume Type	Southbound			Eastbound		Westbound		Total Volume
			Left	Thru	Right	Thru	Right	Left	Thru	
6	Utica Avenue at South Bound I-5 Ramps	Final Base	21	3	2	19	1	0	3	49
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	0	316	554	196	0	178	1244
		Other	0	0	0	0	0	0	0	0
		Future Total	**32**	**5**	**319**	**583**	**198**	**0**	**183**	**1320**

ID	Intersection Name	Volume Type	Northbound			Eastbound		Westbound		Total Volume
			Left	Thru	Right	Left	Thru	Thru	Right	
7	Utica Avenue at North Bound I-5 Ramps	Final Base	1	4	2	10	31	2	17	67
		Growth Factor	1.52	1.52	1.52	1.52	1.52	1.52	1.52	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	148	0	0	497	57	30	0	732
		Other	0	0	0	0	0	0	0	0
		Future Total	**150**	**6**	**3**	**512**	**104**	**33**	**26**	**834**

Study Intersections



Traffic Volume - Net New Site Trips



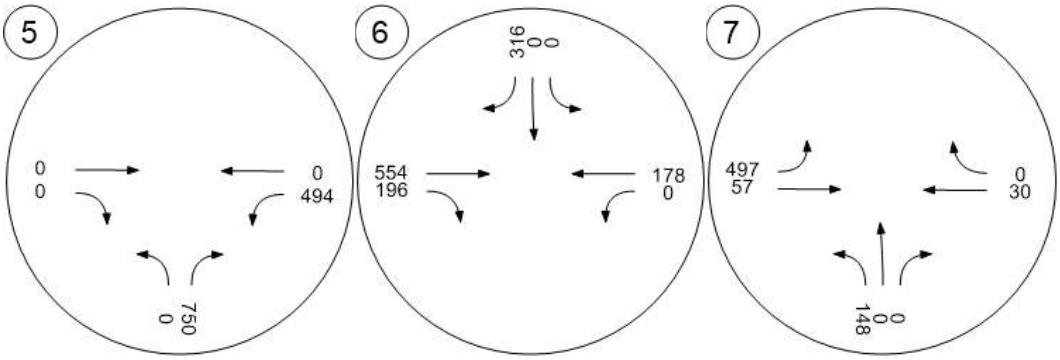


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Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
5	Utica Avenue at South Bound 25th Street	Two-way stop	HCM 6th Edition	NB Left	0.256	37.5	E
6	Utica Avenue at South Bound I-5 Ramps	Two-way stop	HCM 6th Edition	SB Thru	0.019	21.7	C
7	Utica Avenue at North Bound I-5 Ramps	All-way stop	HCM 6th Edition	EB Left	0.539	11.3	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 5: Utica Avenue at South Bound 25th Street

Control Type:	Two-way stop	Delay (sec / veh):	37.5
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.256

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	33	77	7	4	5	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.00	11.00	11.00	11.00	11.00	11.00
Growth Factor	1.0820	1.0820	1.0820	1.0820	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	470	0	0	506	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	553	8	4	511	8
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	146	2	1	134	2
Total Analysis Volume [veh/h]	38	582	8	4	538	8
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.26	0.56	0.00	0.00	0.35	0.00
d_M, Delay for Movement [s/veh]	37.47	12.67	0.00	0.00	8.55	0.00
Movement LOS	E	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.97	3.55	0.00	0.00	1.58	1.58
95th-Percentile Queue Length [ft/ln]	24.17	88.71	0.00	0.00	39.38	39.38
d_A, Approach Delay [s/veh]	14.19		0.00		8.43	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	11.38					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 6: Utica Avenue at South Bound I-5 Ramps

Control Type:	Two-way stop	Delay (sec / veh):	21.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.019

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	21	6	5	0	76	7	1	7	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	11.00	11.00	11.00	2.00	11.00	11.00	11.00	11.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0820	1.0820	1.0820	1.0000	1.0820	1.0820	1.0820	1.0820	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	318	0	321	149	0	188	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	23	6	323	0	403	157	1	196	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500	0.9500	0.9500	0.9500	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	6	2	85	0	106	41	0	52	0
Total Analysis Volume [veh/h]	0	0	0	24	6	340	0	424	165	1	206	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane		No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.07	0.02	0.42	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	20.81	21.70	14.48	0.00	0.00	0.00	8.82	0.00	0.00
Movement LOS				C	C	B		A	A	A	A	
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	2.93	2.93	2.93	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	73.19	73.19	73.19	0.00	0.00	0.00	0.08	0.08	0.00
d_A, Approach Delay [s/veh]	0.00			15.00			0.00			0.04		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	4.77											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 7: Utica Avenue at North Bound I-5 Ramps

Control Type:	All-way stop	Delay (sec / veh):	11.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.539

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	1	2	5	0	0	0	58	38	0	0	10	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	11.00	11.00	11.00	2.00	2.00	2.00	11.00	11.00	2.00	2.00	11.00	11.00
Growth Factor	1.0820	1.0820	1.0820	1.0000	1.0000	1.0000	1.0820	1.0820	1.0000	1.0000	1.0820	1.0820
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	161	0	0	0	0	0	296	25	0	0	27	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	162	2	5	0	0	0	359	66	0	0	38	47
Peak Hour Factor	0.9500	0.9500	0.9500	1.0000	1.0000	1.0000	0.9500	0.9500	1.0000	1.0000	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	1	1	0	0	0	94	17	0	0	10	12
Total Analysis Volume [veh/h]	171	2	5	0	0	0	378	69	0	0	40	49
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	659		829	857
Degree of Utilization, x	0.27		0.54	0.10

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.09		3.28	0.35
95th-Percentile Queue Length [ft]	27.27		82.09	8.66
Approach Delay [s/veh]	10.47	0.00	12.30	7.69
Approach LOS	B	A	B	A
Intersection Delay [s/veh]	11.27			
Intersection LOS	B			

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Report File: H:\...\Near Term_Fri_access.pdf

Scenario 29 NearTerm_FRI_access MIT
3/10/2020

Turning Movement Volume: Summary

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
5	Utica Avenue at South Bound 25th Street	36	553	8	4	511	8	1120

ID	Intersection Name	Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Thru	Right	Left	Thru	
6	Utica Avenue at South Bound I-5 Ramps	23	6	323	403	157	1	196	1109

ID	Intersection Name	Northbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Thru	Right	
7	Utica Avenue at North Bound I-5 Ramps	162	2	5	359	66	38	47	679

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Report File: H:\...\Near Term_Fri_access.pdf

Scenario 29 NearTerm_FRI_access MIT
3/10/2020

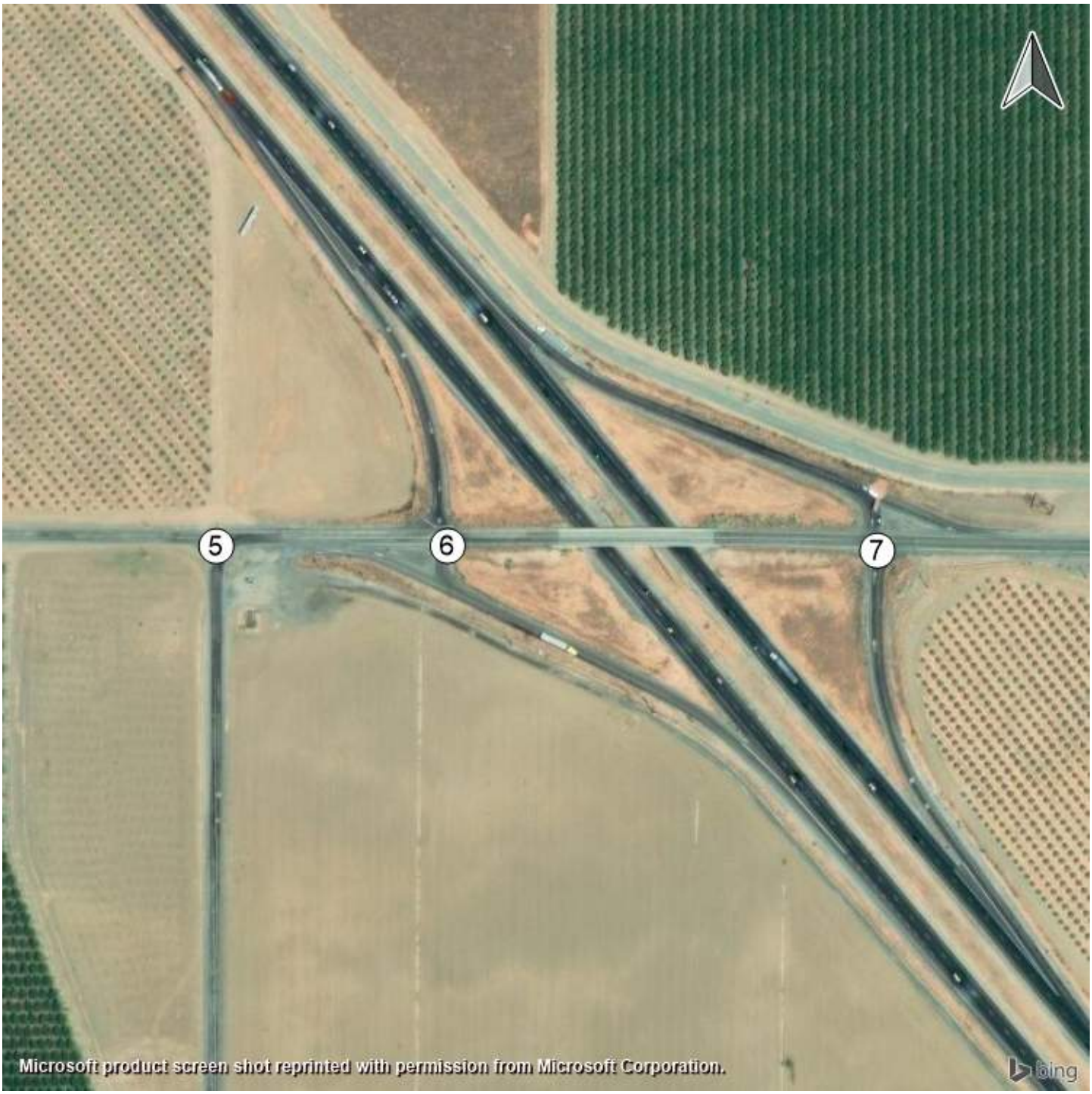
Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound		Eastbound		Westbound		Total Volume
			Left	Right	Thru	Right	Left	Thru	
5	Utica Avenue at South Bound 25th Street	Final Base	33	77	7	4	5	7	133
		Growth Factor	1.08	1.08	1.08	1.08	1.08	1.08	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	470	0	0	506	0	976
		Other	0	0	0	0	0	0	0
		Future Total	**36**	**553**	**8**	**4**	**511**	**8**	**1120**

ID	Intersection Name	Volume Type	Southbound			Eastbound		Westbound		Total Volume
			Left	Thru	Right	Thru	Right	Left	Thru	
6	Utica Avenue at South Bound I-5 Ramps	Final Base	21	6	5	76	7	1	7	123
		Growth Factor	1.08	1.08	1.08	1.08	1.08	1.08	1.08	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	0	0	318	321	149	0	188	976
		Other	0	0	0	0	0	0	0	0
		Future Total	**23**	**6**	**323**	**403**	**157**	**1**	**196**	**1109**

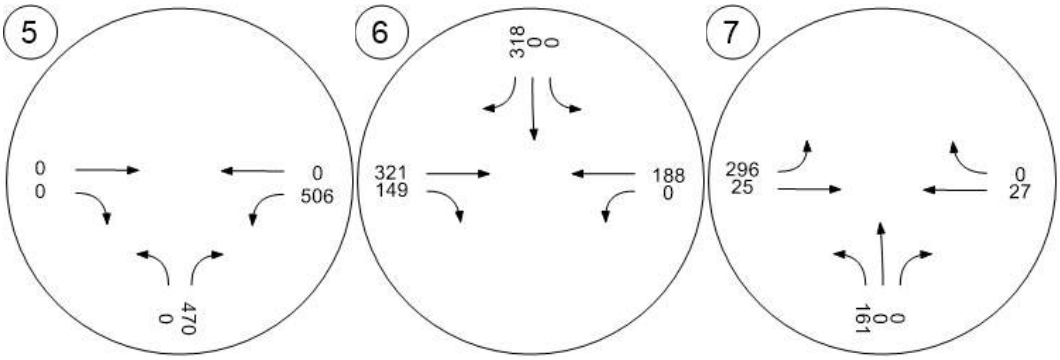
ID	Intersection Name	Volume Type	Northbound			Eastbound		Westbound		Total Volume
			Left	Thru	Right	Left	Thru	Thru	Right	
7	Utica Avenue at North Bound I-5 Ramps	Final Base	1	2	5	58	38	10	43	157
		Growth Factor	1.08	1.08	1.08	1.08	1.08	1.08	1.08	-
		In Process	0	0	0	0	0	0	0	0
		Net New Trips	161	0	0	296	25	27	0	509
		Other	0	0	0	0	0	0	0	0
		Future Total	**162**	**2**	**5**	**359**	**66**	**38**	**47**	**679**

Study Intersections



Traffic Volume - Net New Site Trips





Appendix G2 VMT Analysis Memorandum

Appendices

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KITTELSON & ASSOCIATES
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ORANGE, CA 92868
P 714.468.1997

MEMORANDUM

Date: April 20, 2020 Project #: 24908

To: Jorge Estrada, Senior Associate
PlaceWorks

From: Fernando Sotelo and Damian Stefanakis, Kittelson & Associates, Inc.
Project: Jackson Ranch Specific Plan
Subject: VMT Analysis

INTRODUCTION

Senate Bill 743 (SB 743) was signed into law in September 2013. It requires changes to guidelines for the California Environmental Quality Act (CEQA). SB 743 has fundamentally changed transportation impact analysis as part of CEQA compliance. Under current practice, CEQA transportation analyses of individual projects typically determine impacts in the circulation system in terms of roadway delay and/or capacity at specific locations, mostly located in proximity to a project site. SB 743 changes include the elimination of auto delay, level of service (LOS), and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts. The California Office of Planning and Research (OPR) has updated the CEQA Guidelines and provided a final technical advisory in December 2018, which recommends vehicle miles traveled (VMT) as the most appropriate measure of transportation impacts under CEQA. The California Natural Resources Agency certified and adopted the CEQA Guidelines including the Guidelines section implementing SB 743. The final text, final statement of reasons, and related materials are posted at http://resources.ca.gov/ceqa. The changes have been approved by the Office of the Administrative Law and are now in effect. For land use and transportation projects, SB 743-compliant CEQA analysis becomes mandatory on July 1, 2020.

This technical memorandum provides an estimate of VMT with the development of the Jackson Ranch Specific Plan.

CRITERIA TO EVALUATE LAND DEVELOPMENT PROJECTS

CEQA Guidelines Section 15064.3 describes how transportation impacts are to be analyzed under SB 743. It states that in general transportation impacts are best measured by evaluating the project's vehicle miles traveled. For land use projects, VMT exceeding an applicable threshold of significance may indicate

a significant impact (OPR 2017). There are several key elements for implementing SB 743-compliant standards for land use projects. Kings County, which is the lead agency processing the project under CEQA has not yet adopted VMT methodologies and thresholds to evaluate projects. Kings County has until July 1, 2020 to adopt the guidelines and VMT-cased criteria to evaluate potential transportation impacts related to the development of land use projects. Currently Kings County relies on roadway capacity and LOS to evaluate transportation impacts under CEQA. Therefore, this VMT analysis has been provided for informational purposes and for input for the Air Quality and Greenhouse Gas Emissions being prepared for the project.

PROJECT DESCRIPTION

The Jackson Ranch Specific Plan (Specific Plan) is in an unincorporated area of the County, consisting of approximately 425 acres adjacent to and west of Interstate 5 (I-5) at the Utica Avenue off-ramp. The Plan Area is approximately 70 miles northwest of the City of Bakersfield and 70 miles southwest of the City of Fresno. The nearest urbanized area to the Plan Area is Kettleman City, an unincorporated community of the County approximately 6 miles to the northwest. Implementation of the Specific Plan includes development of approximately 2[illegible] acres of the 425-acre Plan Area. The Plan Area is in an area envisioned by Kings County as having highway-commercial potential for economic growth and development along I-5.

The Specific Plan would develop [illegible] Area with a mix of innovative service and commercial use, including: hospitality services, restaurants, a truck stop, employment centers, and distribution/logistics centers. The traffic impact analysis evaluates conditions at two development phases: the first phase consists buildout of the Plan Area designated as Commercial Thoroughfare, and the second phase consists of buildout of the remainder of the Plan Area. The first phase will fill a need for travel-oriented services geared to meet the needs of existing travelers along I-5. Proposed uses include a truck stop, fast food and sit down restaurants, motels, service stations, and an open area for community events such as a Farmer's Market. Phase two consists primarily of light industrial, research and development, and would also allow for the development of medical offices, hospitals, office, hospitality, retail, and entertainment.

VMT CALCULATION METHODOLOGY

VMT provides an indication of the amount of travel in the roadway system by multiplying the number of trips by the distance travelled. For example, 10 vehicles taking 10-mile trips each would result in a total of 100 VMT. The OPR in its Technical Advisory on Evaluating Transportation Impacts in CEQA (OPR 2018) has provided recommendations pertaining to the appropriate methodology for analyzing impacts related to residential, office, retail, and other land use projects. Specifically, OPR recommends VMT per capita for residential projects and VMT per employee for office projects. When estimating VMT using trip-based models, the home-based VMT per capita and home-based work VMT per employee should be used.

A travel demand model was utilized to identify average VMT/employee and average VMT/population for the County and in the project site area. Modeling results from the Caltrans' California Statewide Travel Demand Model (CSTDM) were reviewed to identify land use and average VMT per household and VMT per employee in the study area. The project site is in traffic analysis zone (TAZ) 2602. Attachment A includes the outputs for the TAZs in Kings County and TAZ 2602.

Truck mix (percentage of trucks of overall traffic) is based on a review of truck volumes on the I-5 freeway (Caltrans 2020), and the percentage of truck trips for industrial and warehousing land uses (City of Fontana 2003 and ITE 2016). For this analysis, the daily proportion of truck traffic is 30% of the total traffic generated by the project. Truck trip distances are based on a review of locations of key goods movement businesses and freight transportation facilities in the San Joaquin Valley, and a review of truck volumes on roads and the tonnage distribution per direction in the San Joaquin Valley. This information is available in Section 2 of the San Joaquin Valley Goods Movement Plan (Cambridge 2018).

Trip distances for employees and businesses patrons were based on a review of employment and population US Census data, and the travel distances to the communities in the region.

PROJECT TRUCK VMT

Tables 1 and 2 present the truck VMT generated by the project during Phase 1, and Phase 2, respectively.

Table 1 Project Truck VMT, Phase 1

Day of Week	Trip Type	Daily trips (autos+trucks)	Truck Trips	Truck Trip Length	Truck VMT
Fridays - Sundays	Net New Trips	6,487	1,946	144	279,946
	Diverted/Passbys	*5,519*	1,656	0.5	828
	TOTAL	**12,006**	**3,602**	**-**	**280,774**
Mondays-Thursdays	Net New Trips	5,414	1,624	144	233,641
	Diverted/Passbys	4,508	1,352	0.5	676
	TOTAL	**9,922**	**2,977**	**-**	**234,317**

[1] Based on Tables 9 and 10 of the Transportation Impact Analysis, Kittelson & Associates, 2020.

Table 2 Project Truck VMT, Phase 2

Day of Week	Trip Type	Daily trips (autos+trucks)	Truck Trips	Truck Trip Length	Truck VMT
Fridays - Sundays	Net New Trips	10,216	3,065	143.9	440,884
	Diverted/Passbys	*6,826*	2,048	0.5	1,024
	TOTAL	**17,042**	**5,113**	**-**	**441,908**
Mondays-Thursdays	Net New Trips	9,205	2,762	143.9	397,242
	Diverted/Passbys	5,698	1,709	0.5	855
	TOTAL	**14,903**	**4,471**	**-**	**398,096**

[1] Based on Tables 15 and 16 of the Transportation Impact Analysis, Kittelson & Associates, 2020.

PROJECT EMPLOYEE VMT

As discussed above, OPR recommends lead agencies to analyze transportation impacts associated with office uses according to the average VMT/employee. For retail, OPR recommends analyzing retail projects based on its net VMT increase.

Office/Employment VMT

Table 3 presents the VMT/employee in the project site area compared to the regional averages. As shown below, the project site is located in an area where the average VMT/employee is 9.6 and the VMT/employee is 25.9 for the County. The areas surrounding the site is primarily agricultural. The nearest communities are Kettelman City (7 miles), Avenal (19 miles), Huron (23.8 miles) and Stratford (21.9 miles). The project would provide opportunities of employment in the service sector in an area primarily agricultural. Therefore it is expected that the project may provide a reduction in vehicle miles travelled for employees seeking to work in the service sector.

Retail VMT

Table 3 presents the VMT/population in the project site area compared to the regional averages. As shown below, the project site is located in an area where the average VMT/population is 22.9 and the VMT/employee is 11.5 for the County. As discussed above, the areas surrounding the site are primarily agricultural and the nearest communities range from 7 to 23.8 miles. The project would provide retail, dining, and services in an area primarily agricultural. Therefore it is expected that the project may provide a reduction in vehicle miles travelled for residents seeking retail, dining, and service options in a primarily agricultural area.

Table 3 Travel Demand Model VMT Averages

Trip Type	Project Site (TAZ 2602)	Kings County Average
VMT/Employee	9.6	25.9
VMT/Population	22.9	11.5

Notes:
[1] CSTDM model results for 2040 conditions.
[2] TAZ 2602 is the Traffic Analysis Zone where the project site is located.

PROJECT TOTAL VMT

Tables 4 and 5 present the total VMT generated by the project under Phase 1, and Phase 2, respectively.

Table 4 Project VMT, Phase 1

Day of Week	Trip Type	Truck VMT	Employee VMT	Auto VMT	Total VMT
Fridays - Sundays	Net New Trips	279,946	8,246	74,734	362,926
	Diverted/Passbys	828	0	1,931	2,759
	TOTAL	**280,774**	**8,246**	**76,665**	**365,685**
Mondays-Thursdays	Net New Trips	233,641	8,246	57,541	299,428
	Diverted/Passbys	676	0	1,578	2,254
	TOTAL	**234,317**	**8,246**	**59,119**	**301,682**

[1] Based on Tables 9 and 10 of the Transportation Impact Analysis, Kittelson & Associates, 2020.

Table 5 Project VMT, Phase 2

Day of Week	Trip Type	Truck VMT	Employee VMT	Auto VMT	Total VMT
Fridays - Sundays	Net New Trips	440,884	29,598	58,860	529,342
	Diverted/Passbys	1,024	0	2,389	3,413
	TOTAL	**441,908**	**29,598**	**61,249**	**532,755**
Mondays-Thursdays	Net New Trips	397,242	29,598	42,656	469,496
	Diverted/Passbys	855	0	1,994	2,849
	TOTAL	**398,096**	**29,598**	**44,650**	**472,345**

[1] Based on Tables 15 and 16 of the Transportation Impact Analysis, Kittelson & Associates, 2020.

CONCLUSION

This technical memorandum provided VMT calculations an indication of the amount of travel in the roadway system and to provide input for other technical analyses being prepared for CEQA review. The VMT calculations were provide for Phase 1 and Phase 2 of the project, for autos and trucks.

Kings County, which is the lead agency processing the project under CEQA has not yet adopted VMT methodologies and thresholds to evaluate projects. Currently Kings County relies on roadway capacity and LOS to evaluate transportation impacts under CEQA. Therefore, this VMT analysis has been provided for informational purposes. OPR recommends lead agencies to analyze transportation impacts associated with office uses according to the average VMT/employee. For retail, OPR recommends analyzing retail projects based on its net VMT increase. The project site is located in an area where the average VMT/employee is 9.6 and the VMT/employee is 25.9 for the County. The project would provide opportunities of employment in the service sector in an area primarily agricultural. Therefore it is expected that the project may provide a reduction in vehicle miles travelled for employees seeking to work in the service sector. Regarding retail and service-related trips, the project would provide retail, dining, and services in an area primarily agricultural. Therefore, it is expected that the project may provide a reduction in vehicle miles travelled for residents seeking retail, dining, and service options in a primarily agricultural area.

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State of California Governor's Office of Planning and Research

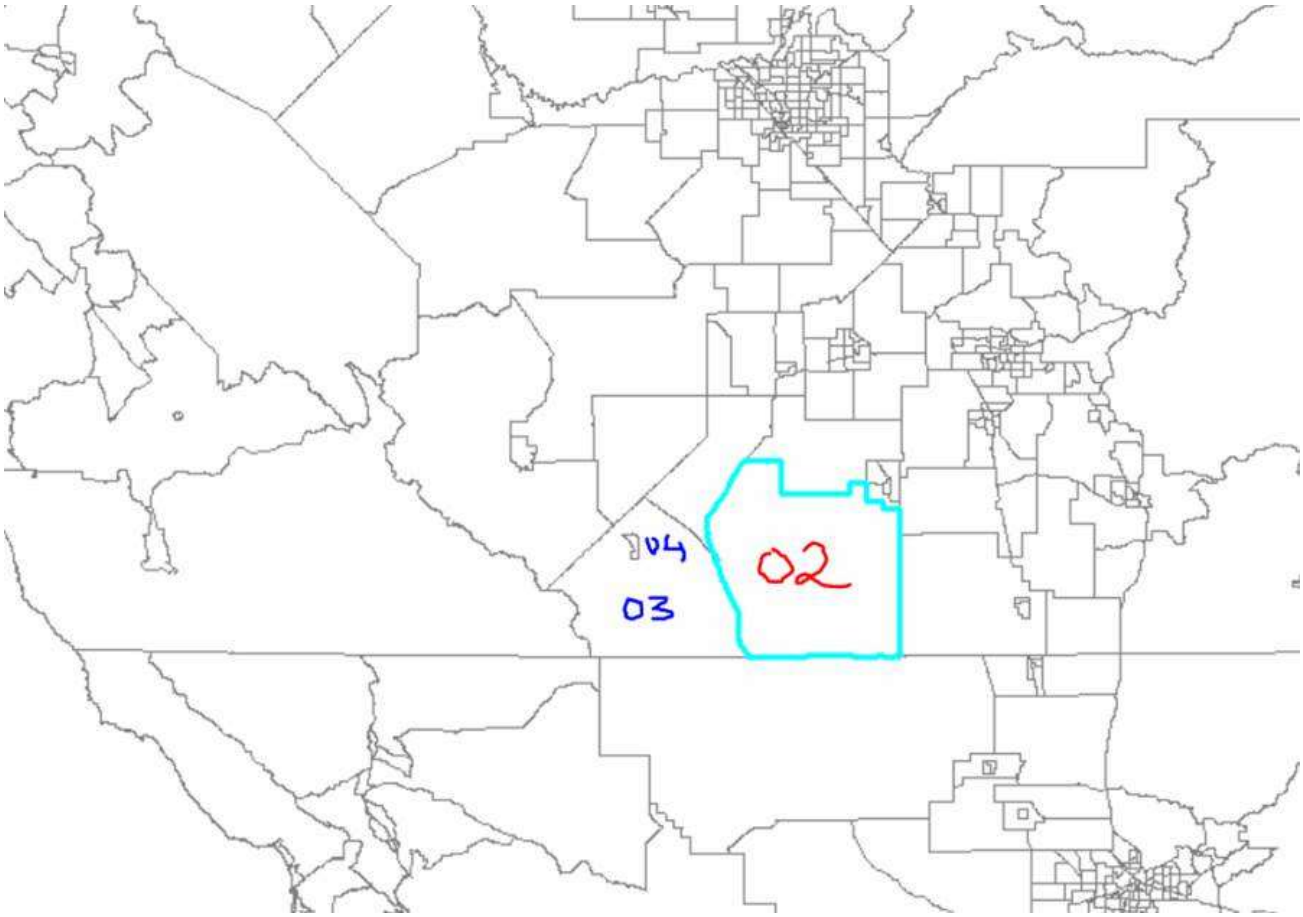
_____Proposed Updates to the CEQA Guidelines, November 2017

_____Technical Advisory on Evaluating Transportation Impacts in CEQA, April 2018

_____Preliminary Evaluation of Alternative Methods of Transportation Analysis, December 2013.

ATTACHMENT A – CSTDM OUTPUTS

Figure 1 – Caltrans' California Statewide Travel Demand Model (CSTDM) TAZ Map



workloc	VMT	HBWVMT	HBWTripLen	Emps	VMTperEmp	HBWVMTperEmp
2600	136,399	83,331	20.30	2489	54.80	33.48
2601	185,100	76,301	10.51	7313	25.31	10.43
2602	**11,137**	**6,340**	**25.77**	**1165**	**9.56**	**5.44**
2603	17,856	8,754	13.53	1522	11.73	5.75
2604	32,300	12,826	7.35	3001	10.76	4.27
2605	38,920	24,226	22.68	3923	9.92	6.18
2606	11,378	6,822	19.55	725	15.69	9.41
2607	37,287	20,362	16.13	1514	24.63	13.45
2608	34,226	17,500	14.69	1270	26.95	13.78
2609	27,854	10,369	8.15	826	33.72	12.55
2610	13,323	4,554	7.52	371	35.91	12.28
2611	70,820	26,922	8.20	2184	32.43	12.33
2612	28,647	11,547	8.29	1040	27.55	11.10
2613	72,042	27,556	8.43	2238	32.19	12.31
2614	138,051	53,198	7.91	4425	31.20	12.02
2615	14,328	5,467	7.73	440	32.56	12.42
2616	41,627	15,793	7.74	1239	33.60	12.75
2617	27,793	14,190	13.29	1096	25.36	12.95
2618	123,093	54,746	9.61	3208	38.37	17.07
2619	219,513	96,163	11.50	9678	22.68	9.94
2620	29,686	15,387	11.67	615	48.27	25.02
2621	26,352	11,565	9.97	711	37.06	16.27
2622	35,656	16,442	14.17	1736	20.54	9.47
2623	19,618	8,713	13.20	979	20.04	8.90
2624	119,522	51,454	12.13	5547	21.55	9.28
2625	96,502	51,594	12.80	3794	25.44	13.60
2626	50,619	21,614	9.40	1713	29.55	12.62
2627	357,349	145,652	7.62	12394	28.83	11.75
2628	39,229	16,452	12.19	2391	16.41	6.88
K County Total	**2,056,225**	**915,840**		**79,547**	**25.85**	**11.51**

workloc	VMT	HBWVMT	HBWTripLen	Emps	VMTperEmp	HBWVMTperEmp
2600	86,162	29,164	6.85	3550	24.27	8.22
2601	21,201	9,500	11.63	767	27.64	12.39
2602	**960**	**421**	**21.03**	**67**	**14.33**	**6.28**
2603	5,487	2,451	12.08	578	9.49	4.24
2604	77,300	24,213	4.84	4388	17.62	5.52
2605	17,689	7,507	16.18	935	18.92	8.03
2606	58,235	30,252	18.35	3314	17.57	9.13
2607	52,532	28,587	17.17	2013	26.10	14.20
2608	40,322	21,015	15.52	1503	26.83	13.98
2609	29,920	12,135	9.95	1005	29.77	12.07
2610	4,559	1,807	9.36	150	30.39	12.05
2611	56,189	23,201	10.26	1630	34.47	14.23
2612	24,466	9,165	8.66	872	28.06	10.51
2613	34,261	14,621	9.41	1235	27.74	11.84
2614	176,262	70,855	8.70	5994	29.41	11.82
2615	13,044	5,145	9.32	435	29.99	11.83
2616	35,760	14,126	7.90	1447	24.71	9.76
2617	30,577	15,973	14.49	1405	21.76	11.37
2618	132,541	50,823	7.72	5103	25.97	9.96
2619	47,395	22,129	13.66	2041	23.22	10.84
2620	34,351	14,446	8.90	1394	24.64	10.36
2621	43,265	18,474	8.55	1946	22.23	9.49
2622	35,077	15,838	10.98	1734	20.23	9.13
2623	22,284	9,833	10.36	1214	18.36	8.10
2624	7,763	3,943	13.69	392	19.80	10.06
2625	40,771	21,077	12.99	1822	22.38	11.57
2626	51,784	22,935	9.83	1986	26.07	11.55
2627	182,333	78,398	8.63	7980	22.85	9.82
2628	46,059	24,130	14.08	3553	12.96	6.79
K County Total	**1,408,550**	**602,165**		**60,453**	**23.30**	**9.96**

ATTACHMENT B – TRUCK TRIP LENGTHS AND TRUCK MIX

TRIP LENGTH CALCULATIONS

ORIGIN/DESTINATION	DISTANCE	TRIP TYPE	SHARE %	TRIP LENGTH FACTOR
Fresno	61	Intra-Regional	15%	9.2
Bakersfield	71	Intra-Regional	10%	7.1
Visalia	63	Intra-Regional	10%	6.3
Hanford	38	Intra-Regional	10%	3.8
Modesto	150	Intra-Regional	8%	12.0
Stockton	166	Onbound/Inbound	5%	8.3
Bay Area/Sacramento	210	Onbound/Inbound	15%	31.5
SoCal/Long Beach	198	Onbound/Inbound	15%	29.7
Beyond LA/SF	300	Onbound/Inbound	12%	36.0
	139.7		100%	**143.9**

weighted average trip length

Onbound/Inbound %	47%
Intra-Regional %	53%

Share% based on Figure 2.10 of the SJV Goods Movement Plan

Fontana Study - PCE and Vehicle Mix Rates					
Land Use	Passenger Cars	Trucks	2-Axle Trucks	3-Axle Trucks	4+Axle Trucks
Light Warehouse	80.3%	19.7%	5.2%	4.5%	10.0%
Heavy Warehouse	79.6%	20.4%	3.5%	4.6%	12.3%
Light Industrial	78.6%	21.4%	8.0%	3.9%	9.5%
Heavy Indsutrial	61.2%	38.8%	6.1%	12.7%	19.9%
Industrial Park	52.8%	47.2%	4.0%	3.3%	39.8%

[1] Truck Trip Generation Study, City of Fontana, August 2003.

High Cube Warehousing Study (ITE/SCAQMD Study[1])

TYPE	Passenger Cars	Trucks
Short-Term Storage, Transload & Cold Storage	67.8%	32.2%
Fullfillment Center	91.2%	8.8%
Parcel Hub	62.3%	37.7%

[1] High-Cube Warehouse Vehicle Trip Generation Analysis, Institute of Transporation Engineers, October 2016.

Short Term Storage: associated with LU 154, High Cube Warehousing.

Light Industrial: associated with General Light Industrial LU 110, Freeway Incubator

Traffic volumes on I-5 = 30% of daily total, per Caltrans' TCR Report

ATTACHMENT C – PROJECT TOTAL VMT CALCULATIONS

Table Project VMT, Phase 1

Day of Week	Trip Type	Phase1 Daily trips[1]	Truck Trips	Employees	Non-Employee Auto Trips	Truck Trip Length	VMT/Employee	Auto Trip Length	Truck VMT	Employe VMT	Auto VMT	Total VMT
Fridays - Sundays	Net New Trips	6,487	1,946	319	3,265	143.9	25.9	22.9	279,946	8,246	74,734	362,926
	Diverted/Passbys	*5,519*	1,656	0	3,863	0.5	0.0	0.5	828	0	1,931	2,759
	TOTAL	**12,006**	**3,602**	**319**	**7,128**	**-**			**280,774**	**8,246**	**76,665**	**365,685**
Mondays-Thursdays	Net New Trips	5,414	1,624	319	2,514	144	25.9	22.9	233,641	8,246	57,541	299,428
	Diverted/Passbys	4,508	1,352	0	3,156	0.5	0.5	0.5	676	0	1,578	2,254
	TOTAL	**9,922**	**2,977**	**319**	**5,669**	**-**			**234,317**	**8,246**	**59,119**	**301,682**

[1] Based on Tables 9 and 10 of the Transportation Impact Analysis, Kittelson and Associates, 2020.

Table Project VMT, Phase 2

Day of Week	Trip Type	Phase2 Daily trips[1]	Truck Trips	Employees	Non-Employee Auto Trips	Truck Trip Length	VMT/Employee	Auto Trip Length	Truck VMT	Employe VMT	Auto VMT	Total VMT
Fridays - Sundays	Net New Trips	10,216	3,065	1,145	2,571	143.9	25.9	22.9	440,884	29,598	58,860	529,342
	Diverted/Passbys	*6,826*	2,048	0	4,778	0.5	0.0	0.5	1,024	0	2,389	3,413
	TOTAL	**17,042**	**5,113**	**1,145**	**7,350**	**-**			**441,908**	**29,598**	**61,249**	**532,755**
Mondays-Thursdays	Net New Trips	9,205	2,762	1,145	1,864	143.9	25.9	22.9	397,242	29,598	42,656	469,496
	Diverted/Passbys	5,698	1,709	0	3,989	0.5	0.0	0.5	855	0	1,994	2,849
	TOTAL	**14,903**	**4,471**	**1,145**	**5,852**	**-**			**398,096**	**29,598**	**44,650**	**472,345**

[1] Based on Tables 15 and 16 of the Transportation Impact Analysis, Kittelson and Associates, 2020.

Appendix H Water Supply Assessment

Appendices

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Draft Water Supply Assessment
Jackson Ranch Specific Plan

Kettleman City Community Services District

Prepared for:

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Project Number: UPA-02.0

PLACEWORKS

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1. Introduction

1.1 INTRODUCTION

This document prepared for the Kettleman City Community Services District (KCCSD) is a Water Supply Assessment (WSA) intended to meet the requirements of Senate Bill (SB) 610. The water demand for the Jackson Ranch Specific Plan ("proposed project") is calculated and the adequacy of water supplies to meet the proposed project is evaluated.

SB 610 established the primary legal standards for assessing the sufficiency of water supplies for new development projects. These statutes require as part of the environmental review conducted for a qualifying project pursuant to the California Environmental Quality Act (CEQA), the public water supplier or land use agency – in this case KCCSD – must prepare a "water supply assessment" that documents the availability and reliability of water supplies for the project.

References used in preparing this document include the following:

- California Department of Water Resources, March 18, 2018. *State Water Project Delivery Capability Report 2017*.
- Southwest Kings Groundwater Sustainability Agency, August 2019. *Tulare Lake Subbasin Groundwater Sustainability Plan*.
- Yamabe and Horn Engineering, Inc, March 29, 2019. *Technical Memorandum – Water Service for Jackson Ranch Commercial Development.*

1.2 SITE LOCATION AND PROJECT DESCRIPTION

The development area covered by the Jackson Ranch Specific Plan (Plan Area) is in an unincorporated area of Kings County and consists of 415 acres adjacent to and west of Interstate 5 (I-5) at the Utica Avenue off-ramp. The site is approximately 70 miles northwest of the City of Bakersfield and 70 miles southwest of the City of Fresno. The nearest urbanized area to the Plan Area is Kettleman City, which is an unincorporated community within Kings County and is located approximately 6 miles to the northwest (see Figure 1). As shown in Figure 2, Utica Avenue forms the northern Plan Area boundary, the southbound I-5 on-ramp forms the northeastern boundary, and I-5 forms the eastern boundary. A portion of the western Plan Area boundary abuts the California Aqueduct, and 25th Avenue bisects the Plan Area from north to south. Agricultural uses are located along the northern, western, and southern edges.

Onsite land uses primarily consist of active and fallow agricultural land or rangeland, as shown in Figure 3. The agricultural production consists mainly of irrigated crops such as almonds, pistachios, and stone fruits. Dry

1. Introduction

land grazing also occurs onsite. A portion of the Plan Area consists of disked lands formerly planted as orchards. Currently, the Dudley Ridge Water District (DRWD) delivers State Water Project (SWP) water from the California Aqueduct (Aqueduct) to the Plan Area for irrigation purposes.

The proposed project consists of development and implementation of the Jackson Ranch Specific Plan, which would allow for the development of just under 2.4 million square feet of commercial space. Under the proposed project, approximately 141 acres, or 34 percent of the Plan Area, would be dedicated to a range of commercial, light industrial, and public facility uses. Approximately 268 acres, or 65 percent of the Plan Area, will be zoned for agriculture. It is anticipated that active agriculture will continue in the Plan Area during and after the development of Jackson Ranch (see Figure 4).

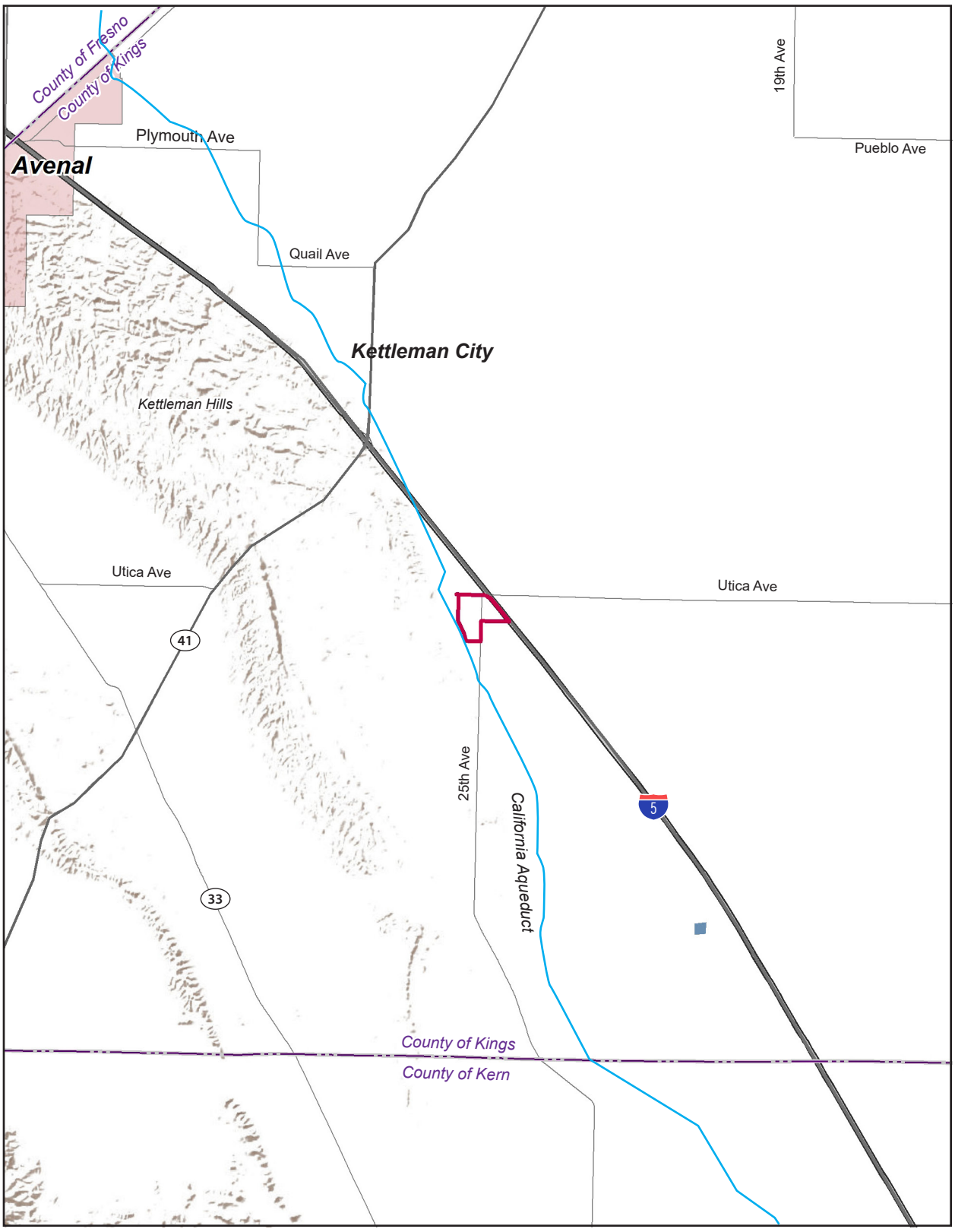
As detailed in the Specific Plan, the Plan Area is anticipated to be developed in seven phases, with development of the first phase serving as the key development piece. For planning and financing purposes, development of the subsequent six phases would occur in response to market demands and other factors. However, consistent with the analysis and approach of the Draft Environmental Impact Report (DEIR), this WSA evaluates two development phases: Phase 1, which consists of buildout of the portion of the Plan Area designated as Commercial Thoroughfare, and Phase 2, which consists of the portion of the Plan Area designated as Innovation Center (see Figure 4). Phase 1 would accommodate up to 161,245 square feet of development and Phase 2 would accommodate up to 2,236,784 square feet of development. Appropriate levels of infrastructure and utilities will be constructed as each phase of development occurs. For purposes of the analysis in the DEIR and this WSA, to analyze worst case conditions, buildout of Phase 1 is anticipated to occur in 2023 and buildout of Phase Two, or the overall Specific Plan, is anticipated to occur in 2040. A more detailed development plan is being developed at this time for Phase 1. For Phase 2 a broader programmatic-level analysis was conducted as no detailed development plans are being developed at this time.

For purposes of this WSA and the water demand estimates included in this report for Phase 1, Table 1 provides a breakdown of the proposed uses that would occur under this phase. The land uses are based on the more detailed development plan being prepared for this phase. A more detailed breakdown of land use for Phase 2 was not available at this time.

Table 1 Proposed Project Land Use – Phase 1

Land Use	Maximum Buildout
Retail	11,980 square feet
Restaurants	19,880 square feet
Gas Stations	12,369 square feet (32 Fuel Pumps)
Hotels	106,131 square feet (187 Rooms)
Truck Stop	10,890 square feet

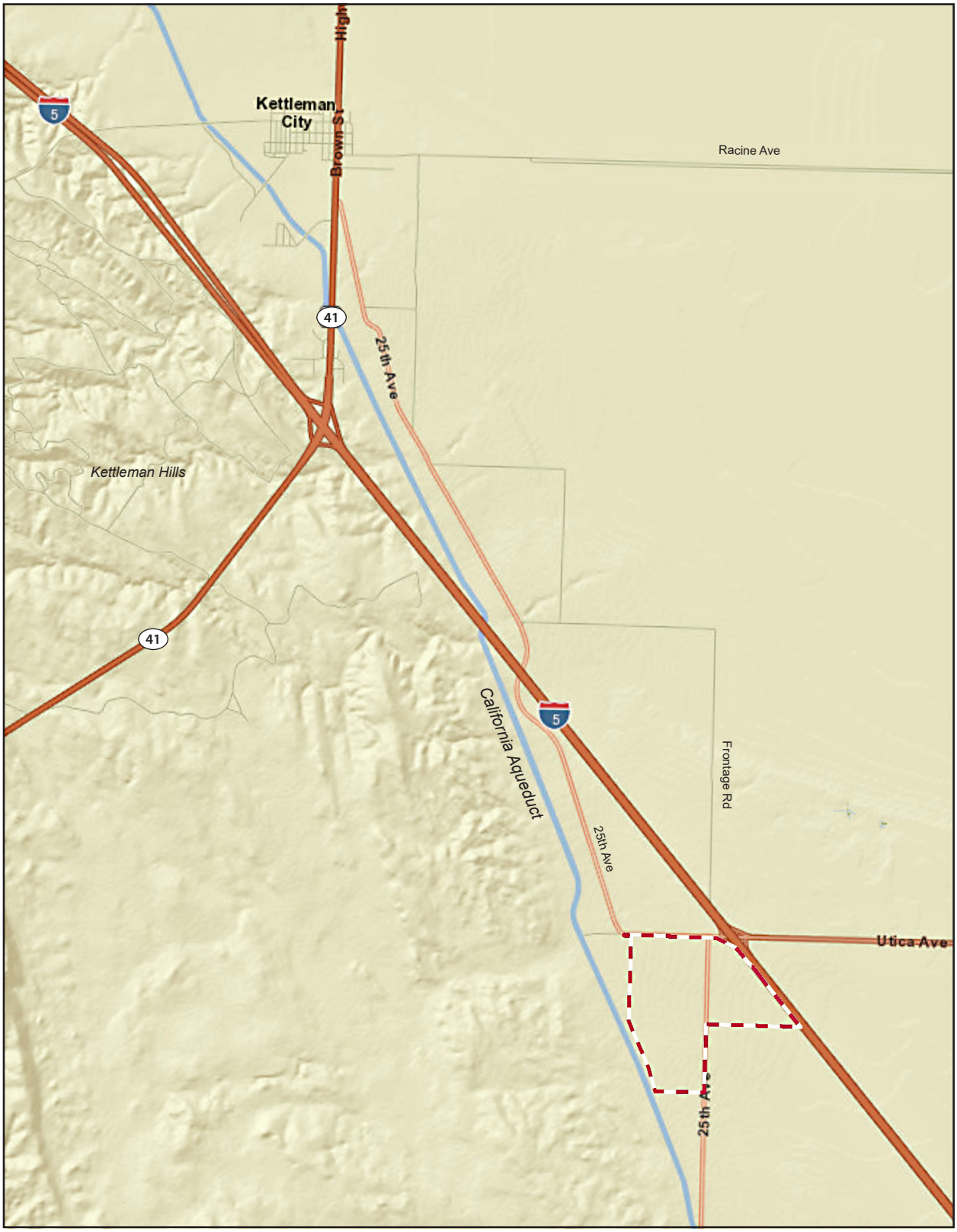
Figure 1 - Regional Location
1. Introduction



Source: ESRI, 2019

PlaceWorks

Figure 2 - Local Vicinity
1. Introduction



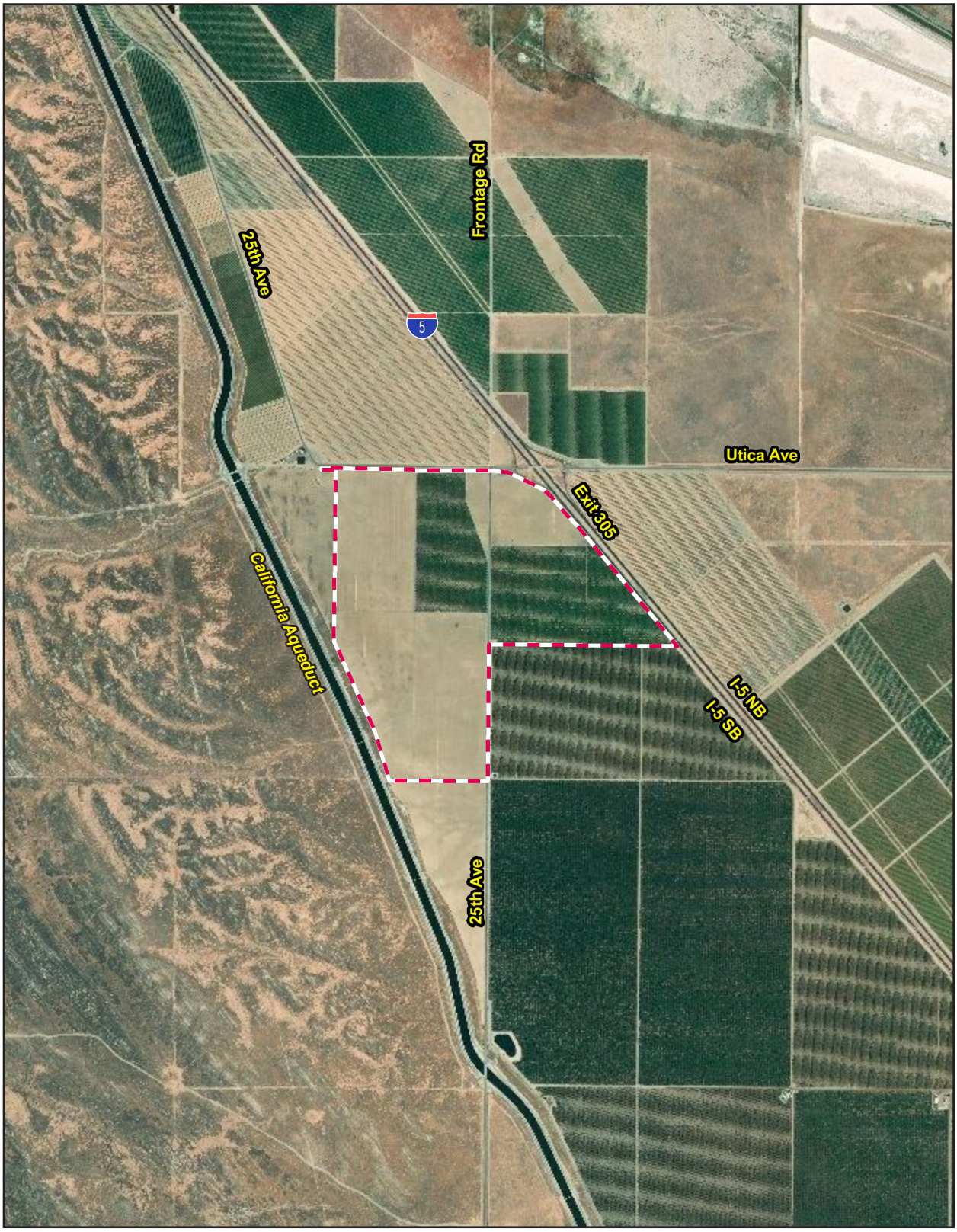
Plan Area Boundary

0 1
Scale (Miles)

Source: ESRI, 2019

PlaceWorks

Figure 3 - Aerial Photograph
1. Introduction



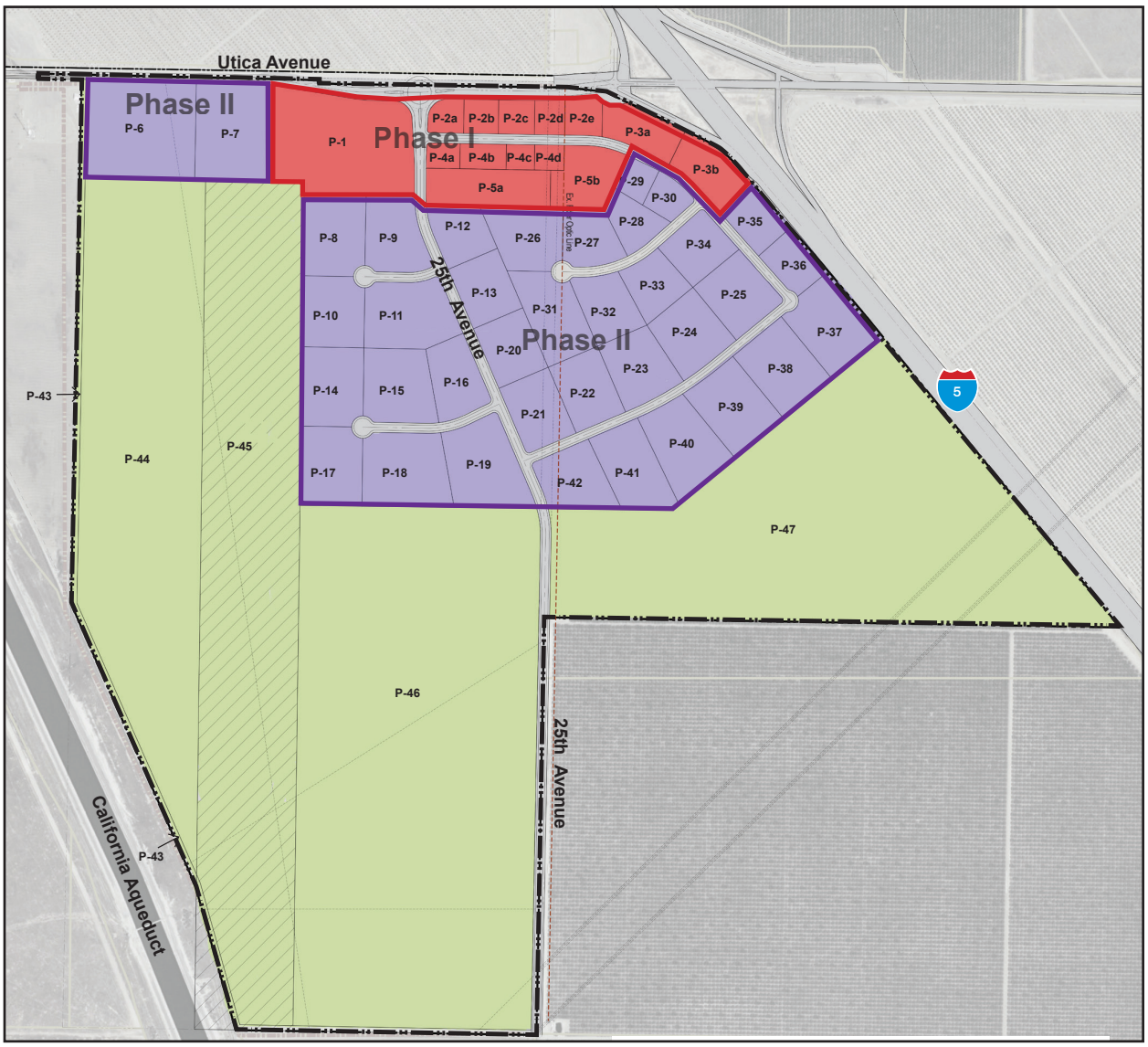
Plan Area Boundary

0 2,000
Scale (Feet)

Source: ESRI, 2019

PlaceWorks

Figure 4 - Specific Plan Land Use Plan
1. Introduction



Plan Area Boundary

Phase I

Phase II

Land Use Designation

Commercial Thoroughfare (CT-JR)

Innovation Center (IC-JR)

Specialty Agriculture (A-JR)

Specialty Agriculture with Air Strip Overlay (A-JR)

Streets

0 1,000
Scale (Feet)

Source: ESRI, 2019

PlaceWorks

2. Water Supply Assessment

2.1 WATER PURVEYOR

KCCSD provides water service to residents and businesses within Kettleman City and the current plan is that KCCSD will also supply water to the proposed Plan Area. KCCSD currently provides water to a population of approximately 1,500 residents and there are approximately 354 service connections. Previously, KCCSD obtained water for the service area from two groundwater wells. However, there were problems with high concentrations of naturally occurring arsenic in the groundwater. As a result, with funding from the State Water Resources Control Board (SWRCB), KCCSD has recently built the Kettleman Surface Water Treatment Plant (WTP). The WTP receives water from the SWP via the California Aqueduct and treats the water to drinking water standards prior to distribution to its customers. KCCSD has obtained an allocation of 900 acre-feet per year (AFY) from the SWP and the plant has a treatment capacity of 1.3 million gallons per day (1,456 AFY).[1] However, on average, KCCSD will likely receive less than the full allocation amount (i.e., up to 750 AFY) due to water availability, drought conditions, and environmental/fisheries concerns.[2]

The KCCSD has two groundwater wells: the Maud Street Well and the Becky Pease Street Well. The Maud Street Well is currently out of service due to well casing corrosion. The Becky Pease Well was installed in March, 1970 and the water system was sold to the KCCSD in April 1979. Initially, the Becky Pease well had a capacity of 400 gallons per minute (gpm) but over time, the well capacity has been reduced to 250 gpm due to corrosion and plugging of the well perforations. The well is 50 years old and is near the end of its life.[3]

Hostorically, groundwater in the vicinity of the Plan Area has had high levels of arsenic and volatile organic compounds (VOCs).[4] Arsenic and benzene have been detected in the two municipal wells that previously served Kettleman City. In 1998, both municipal wells were equipped with aeration treatment to reduce the level of benzene to less than 0.5 micrograms per liter (µg/l), which is below the State drinking water standard of 1.0 µg/l. The water was also disinfected with chlorine.[5]

The Becky Pease well could be used as a supplemntary water supply which could provide KCCSD with an additional source if SWP supplies are not sufficient. However, the well would need to undergo extensive repairs due to excessive sand and siltation in the pumped groundwater that impacts the filtration system. Currently, KCCSD does not have a water budget for the well repair costs and future funding options would need to be

1 State Water Resources Control Board (SWRCB). 2016, December 6. Board Meeting Session – Division of Financial Assistance, https://www.waterboards.ca.gov/board_info/agendas/2016/dec/120616_5.pdf

2 Skaggs, Brian (Civil Engineer). 2019, October 24. Email correspondence. Summers Engineering, Inc.

3 Skaggs, Brian (Civil Engineer). 2020, April 20. Email correspondence. Summers Engineering, Inc.

4 Southwest Kings Groundwater Sustainability Agency (SWKGSA). 2019, August. Tulare Lake Subbasin Groundwater Sustainability Plan. http://www.swkgsa.org/assets/2019-0906-tulare-lake-subbasin-gsp-prelim-draft_for-upload.pdf

5 California Environmental Protection Agency, December 2010, Investigation of Birth Defects and Community Exposures in Kettleman City, CA, http://kettlemanhillslandfill.wm.com/pdfs/FinalReport-forWMWeb_v2.pdf

reviewed to put this groundwater well back in service, including possible support from the project applicant.[6] The groundwater could be blended with surface water from the WTP.[7] The blended water would decrease the level of arsenic to below the State drinking water standard of 10 μg/l.

The current potable water demand within the KCCSD service area is 315 AFY. KCCSD is capable of meeting the water demand of its customers in normal, single dry, and multiple dry years between the years 2015 and 2040.[8]

2.2 LEGAL REQUIREMENTS

SB 610 established the primary legal standards for assessing the sufficiency of water supplies for new development projects. Affected land developments are those that meet certain size thresholds. The proposed project meets the following criteria:

- A mixed-use project including commercial land use employing more than 1,000 persons or having more than 250,000 square feet of floor space.

Therefore, the proposed project at full buildout, as described in Section 1.2, meets the criteria for preparation of a WSA.

The basic requirement is that a WSA must "include a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the water system's existing and planned future uses, including agricultural and manufacturing uses."

The WSA also requires additional analysis if any portion of the water purveyor's water supplies include groundwater. A description of any groundwater basin or basins from which the proposed project will be supplied in addition to a detailed description and analysis of the amount and location of groundwater pumped by the public water system for the past five years should be provided. The WSA should also include an analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project.

Upon adoption, the WSA is incorporated into the CEQA document being prepared for the project, and the lead agency must determine, based on the entire record, whether projected water supplies will be sufficient to satisfy demands for the project, in addition to existing and future uses.[9]

[6] Skaggs, Brian (Civil Engineer). 2020, April 20. Email correspondence. Summers Engineering, Inc.
[7] Skaggs, Brian (Civil Engineer). 2019, October 24. Email correspondence. Summers Engineering, Inc.
[8] Skaggs, Brian (Civil Engineer). 2019, October 24. Email correspondence. Summers Engineering, Inc.
[9] California Water Code Section 10910 (b) and (c).

2.3 WATER DEMAND ANALYSIS

2.3.1 Kettleman City Water Demands

The primary source of water for the proposed project would be water supplies provided by KCCSD, which also serves its customers in Kettleman City (City). The City's current total water demand is 315 AFY.

Little to no substantial growth has occurred in Kettleman City over the last several years due to the lack of a reliable supply of water. Prior to the construction of the WTP, the City's sole source of water was two groundwater wells. These wells provided 315-acre feet of water per year, with a total pumping capacity of 375 gpm (605 AFY). Water was stored in three water tanks to meet water demand and fire hydrant flow requirements. Concerns regarding groundwater contamination with benzene and arsenic prompted construction of the WTP as an alternative water supply for KCCSD and the community. Summer peak flow demand and limited storage tank capacity also placed a strain on KCCSD's water system.[10]

Table 2 shows the actual population growth in Kettleman City from 2010 to 2017. A linear regression curve was used to project the population growth within the City up to and including 2040 (also shown in Table 2). The project is scheduled to commence construction in 2020 with Phase 1 buildout in 2023. The project build-out is anticipated in the year 2040 (Phase 2). The period from 2020 to 2040 was chosen to assess the 20-year water demand. The projected population for the year 2040 is 3,660 residents.

Table 2 Kettleman City Population Growth

Year	Population
2010	1,020
2011	1,207
2012	1,291
2013	1,413
2014	1,648
2015	1,651
2016	1,586
2017	1,574
Projected Population	
2020	1,973
2025	2,395
2030	2,816
2035	3,238
2040	3,660

Source: United States Census Bureau, American FactFinder, https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml, November 27, 2019 (accessed).

The current total water demand for Kettleman City is 315 AFY and the number of connections within KCCD's service area is 354. The US Census Bureau data shows a population of 1,574 and 375 housing units for the year

[10] Kettleman City, 2009. Kettleman City Community Plan. http://www.countyofkings.com/home/showdocument?id=3130

2017.[11] This calculates to be an average of 4.2 residents per household. And this equates to a current water demand per capita of 0.21 AFY, or 187 per capita per day (gpcd).[12] This is similar to the 2020 target for urban water use for Tulare Lake Hydrologic Region of 188 gpcd.[13]

To estimate the future water demand for Kettleman City and KCCSD customers, the Pacific Institute's Urban Water Demand Model was used.[14] The model helps to forecast urban water demand up to the year 2100 by accounting for population growth and water conservation and efficiency measures, such as the Model Landscape Ordinance and and the CALGreen Building Code, which will result in a 20% reduction in water use for new construction.[15]

Kings County was used as the population area to estimate future water demand for KCCSD's service area. The model estimated that the per capita water demand will decrease to 59 gpcd for the years 2020 to 2029, and 55 gpcd for the years 2030 to 2039. In 2040 the per capita demand would be 54 gpcd. Table 3 shows the projected water demand up to the year 2040. It is projected that KCCD's demand for the year 2040 would be 419 AFY.

Table 3 Projected Water Demand

Year	Increase in Population	Water Demand Rate for New Residents/Employees (gpcd) [a]	Increase in Water Demand (gal/day)	Increase in Water Demand (AFY)	Total Water Demand (AFY)
2020	-	-	-	-	315
2025	422	57[b]	24,054	27	342
2030	421	55	23,155	26	368
2035	422	55	23,210	26	394
2040	422	54	22,788	25	419

[a] Pacific Institute, Tools and Resources, https://pacinst.org/online-tools/, November 27, 2019 (accessed). This assumes that the increase in population will involve new construction, which will require low-flow plumbing fixtures and efficient outdoor landscaping, as per CALGreen building codes and MWELO ordinances. This reduces the per capita water demand. It also is assumed that the proposed development in the city would be primarily residential at 95 percent of growth, while the per capita demand for commercial, industrial, institutional, and large landscapes was weighted at 5 percent. It is assumed that the current residents would continue to have a water demand of 187 gpcd, which is conservative and assumes no reduction in current water usage rates and no retrofitting with water efficient fixtures or appliances.

[b] The per capita demand for the year 2025 is assumed to be the average of the 2020 per capita demand and the 2030 per capita demand.

2.3.2 Proposed Project Water Demand

The proposed project consists of an approximately 415-acre development within the boundaries of the Jackson Ranch Specific Plan. The proposed project plans for new light industrial, office, lodging, commercial, retail, and agricultural uses. Implementation of the Specific Plan includes the construction of a new potable water

[11] United States Census Bureau, American FactFinder, https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml

[12] Gallons per capita per day is calculated by multiplying 354 connections by the number of residents per household. This amounts to 1,487 residents served by KCCSD. The total water consumption of 315 AFY is then divided by 1,487 residents and results in 0.21 AFY per capita. AFY is then converted to gpcd by multiplying by the conversion rate of 892.7 gpcd per AFY.

[13] Department of Water Resources, 2010. 20x2020 Water Conservation Plan. Dated February 2010.

[14] Pacific Institute, Tools and Resources, https://pacinst.org/online-tools/, November 27, 2019 (accessed).

[15] Pacific Institute, August 2012, Urban Water Demand in California to 2100: Incorporating Climate Change, https://pacinst.org/wp-content/uploads/2014/04/2100-urban-water-efficiency.pdf

pipeline connection to the Kettleman Water Treatment Plant located approximately five miles north of the Plan Area.

The Plan Area is currently agricultural land use and receives water for irrigation and fire protection purposes from the Dudley Ridge Water District (DRWD) via the adjacent California Aqueduct. Water supply from DRWD will continue to be used for agriculture, fire protection, and any other outdoor water demands (e.g., landscape irrigation) for the proposed project. The amount of water required from DRWD for the proposed project's outdoor uses will likely be less than the current water demand, because 34% of the Plan Area will be converted from agriculture use to the land uses listed below.

Since outdoor water use will be supplied by DRWD, only the indoor water use for the proposed project was calculated for this WSA, using the domestic water demand rates as specified in the Water Service Technical Memorandum. Table 4 shows the total water demand estimate for the proposed development.

Table 4 Preliminary Water Demand Estimate for the Proposed Development

Land Use	Area and Unit Numbers	Potable Water Demand Rate	Total Potable Water Usage (gal/day)
Phase 1			
Retail	11,980 SF	0.05 gpd/SF	599
Restaurants	19,880 SF	0.32 gpd/SF	6,362
Gas Station	12,369 SF	0.21 gpd/SF	2,597
Hotel	187 Rooms	70 gpd/room	13,090
Truck Stop	10,890 SF	0.46 gpd/SF	5,009
Total	--	--	**27,657**
Phase 2			
Commercial Use	1,099 Employees 2,230,708 SF	13 gpd/employee	14,287
Total	--	--	**41,944**

Source: Yamabe and Horn Engineering, Technical Memorandum – Water Service for Jackson Ranch Commercial Development, 2019.
Note that the square footage for the land uses specified here differ from the preliminary square footages shown in the Technical Memorandum, which used an earlier configuration for the SP area. Only water demand rates are used from the Technical Memorandum.

As shown in Table 4, the total indoor water demand for Phase 1 is estimated to be 27,657 gpd (31 AFY). The estimated water demand for Phase 2 (project buildout) is 14,287 gpd (16 AFY). Therefore, the total estimated potable water demand for the proposed project is 41,944 gpd (47 AFY)

2.4 WATER SUPPLY ANALYSIS

This section identifies the sources of water used by KCCSD and evaluates the water supplies that could be used by the City and the proposed project during normal, single-dry, and multiple-dry years through the year 2040. The water source used by the District is surface water from the SWP. Backup water could be obtained from the District's groundwater well if there is a shortage of supplies but would require rehabilitation of the well..

2. Water Supply

2.4.1 Surface Water Analysis

KCCSD owns and operates the WTP, which obtains water from the SWP via the California Aqueduct. The WTP has a treatment capacity of 1.3 million gallons per day (1,456 AFY) and started operations in October 2019.[16,17] KCCSD was allocated 900 acre-feet per year of surface water from the SWP as of the year 2007.[18] However, on average, KCCSD may not receive its full allotment and may receive only up to 750 AFY due to water availability, drought conditions and environmental/fisheries concerns, as described in more detail below.[19]

The SWP transports Feather River water stored in and released from Oroville Dam and conveyed through the Bay-Delta, as well as unregulated flows diverted directly from the Bay-Delta south via the California Aqueduct. The SWP consists of a series of pump stations, reservoirs, aqueducts, tunnels, and power plants operated by the Daprtment of Water Resources (DWR). This statewide water supply infrastructure provides water to 29 urban and agricultural agencies throughout California. [20]

Multiple needs converge in the Delta: the need to protect a fragile ecosystem, to support Bay Delta recreation and farming, and to provide water for agricultural and urban needs throughout much of California. Various regulatory requirements are placed on the SWP's Delta operations to protect special-status species such as delta smelt and spring and winter-run Chinook salmon. As a result, restrictions on SWP operations imposed by State and federal agencies result in challenges in predicting the SWP's water delivery capability in any given year. Furthermore, Delta inflows vary considerably from season to season and from year to year. Such fluctuations affect Delta water quality and fish habitat, which in turn trigger regulatory requirements that constrain SWP Delta pumping. Upstream reservoirs regulate this variability by reducing flood flows during the rainy season, and storing water to be released later in the year to meet water demands and flow and water quality requirements.

Contractor deliveries from the SWP are presented as four different delivery types. The two delivery types that are pertinent to this WSA are as follows:

- **Table A Water:** The maximum Table A amount is the basis for apportioning water supply and costs to the SWP contractors. Once the total amount of water to be delivered is determined for the year, all available water is allocated in proportion to each contractor's annual maximum SWP Table A amount.

- **Article 21 Water:** Water that SWP contractors may receive on a short-term basis in addition to their Table A water, if requested. Article 21 water is used by many SWP contractors to help meet demands when allocations are less than 100%. The availability and delivery of Article 21 water cannot interfere with normal SWP operations.

[16] State Water Resources Control Board (SWRCB). 2016, December 6. Board Meeting Session – Division of Financial Assistance, https://www.waterboards.ca.gov/board_info/agendas/2016/dec/120616_5.pdf
[17] Skaggs, Brian (Civil Engineer). 2019, October 24. Email correspondence. Summers Engineering, Inc.
[18] Kettleman City, 2009. Kettleman City Community Plan. http://www.countyofkings.com/home/showdocument?id=3130
[19] Skaggs, Brian (Civil Engineer). 2019, October 24. Email correspondence. Summers Engineering, Inc.
[20] California Department of Water Resources March 18, 2017. State Water Project Delivery Capability Report 2017.

SWP water delivery is a combination of deliveries of Table A water and Article 21 water. In the past 10 years, the SWP has averaged 43 percent of total Table A allocations.[21] This decrease in supply is mainly due to regulatory restrictions, such as those aimed at protecting the estuary's resident and migratory fish species.

Deliveries of SWP Article 21 water vary not only by year, but also by month. Article 21 water for 2007 to 2016 ranged from a maximum of 421 thousand acre feet per year (taf/yr) to a minimum of 1 taf/yr.[22] The average Article 21 water supply over the past 10 years is 75.3 taf/yr, which amounts to 1.8 percent of total water allotments.

KCCSD implements various conservation measures based on the amount of water it receives from the SWP. KCCSD will request additional water supplies from the SWP on an annual basis when the water supply does not meet the demand.

2.4.2 Groundwater Analysis

KCCSD owns and operates 2 groundwater wells: the Maud Street Well and the Becky Pease Street Well. The Maud Street Well is no longer operational due to well casing corrosion and will not be used as a backup water supply source. Production from the Becky Pease Street Well has declined over the years and currently has an average production rate of 250 gpm (403 AFY). The well is now 50 years old and is near the end of its life. The Becky Pease Street well could be used as a supplementary water supply that provides KCCSD with an additional source if SWP supplies are not sufficient. The well would need to undergo extensive repairs and possible well funding options would need to be reviewed. The project applicant could be a possible source of assistance.[23]

The Plan Area is located within the Tulare Lake groundwater subbasin, which is in the San Joaquin Valley basin. The subbasin, which covers approximately 837 square miles, is mostly within Kings County, with small portions in Tulare County and Kern County. The current population within the area that encompasses the Tulare Lake Subbasin is 125,907. The subbasin is classified as a high priority subbasin by the DWR and is critically over-drafted. Five local groundwater sustainability agencies cooperatively manage the subbasin. The newly formed Southwest Kings Groundwater Sustainability Agency (SWKGSA) regulates the use of groundwater within the Plan Area. The public and private agencies that comprise the SWKGSA are DRWD, Tulare Lake Reclamation District, KCCSD, and Tulare Lake Basin Water Storage District. Due to the poor yield and poor quality of the groundwater within the SWKGSA, only a minimal quantity of groundwater is pumped within the SWKGSA. Groundwater levels are maintained at current production levels.[24]

[21] California Department of Water Resources March 18, 2017. State Water Project Delivery Capability Report 2017.
[22] California Department of Water Resources, March 18, 2018. State Water Project Delivery Capability Report 2017.
[23] Skaggs, Brian (Civil Engineer). 2020, April 20. Email correspondence. Summers Engineering, Inc.
[24] Southwest Kings Groundwater Sustainability Agency (SWKGSA). 2019, August. Tulare Lake Subbasin Groundwater Sustainability Plan. http://www.swkgsa.org/assets/2019-0906-tulare-lake-subbasin-gsp-prelim-draft_for-upload.pdf

2.5 BALANCE OF WATER SUPPLY AND DEMAND

As indicated in Table 3, KCCSD's projected water demand for the year 2040 is 419 AFY. The proposed project is not within KCCSD's current service area and therefore the project water demand at full buildout of 47 AFY is added to the City's projected future demand for this evaluation.

Table 5 includes a comparison of water demand and supply for KCCSD for the year 2040. As detailed under Section 2.4.1, KCCSD was allocated 900 AFY from the SWP. However, on average, KCCSD may not receive its full allotment and may receive only up to 750 AFY.[25] Furthermore, the WTP incurs water losses through automatic strainers, upflow clarifier sludge blowdowns, and membrane backwash cycles. It is therefore assumed that there is a water loss of 10 percent during these processes. Then estimate of water supply for the year 2040 from the SWP is 675 AFY.

Table 5 includes a comparison of water demand and supply for KCCSD for the year 2040. As detailed under Section 2.4.1, KCCSD was allocated 900 AFY from the SWP. However, in the past 10 years, the SWP has averaged 43 percent of the total Table A Water allocations. Therefore, it is conservatively assumed that KCCSD will receive 387 AFY of its 900 AFY allocation, on average. Furthermore, KCCSD's SWTP incurs water losses of approximately 10 percent as a result of various processes, including automatic strainers, upflow clarifier sludge blowdowns, and membrane backwash cycles. With the additional 10 percent reduction, the total SWP water supplied to KCCSD is assumed to be 349 AFY.

Table 5 Water Supply and Demand for KCCSD for the Year 2040 (AFY)

Demand	
KCCSD 2040 Demand	419
Proposed Project Water Demand	47
Total Demand	**466**
Supply	
SWP	387[a]
Water Losses	(38)
Total Supply	**349**

[a] Includes both Table A and Table 21 water.

The combined water demand for Kettleman City (419 AFY) and the project (47 AFY) is 466 AFY as compared to the water supply amount of 349 AFY. However, current DRWD water supplied to the Plan Area (allocated by right for the agricultural uses) from the California Aqueduct is 750 AFY. The DRWD water being supplied is used for irrigating the existing almond orchards in the Plan Area. As noted above, the SWP has supplied an average of 43 percent of total Table A water allocations to SWP contractors, including DRWD, in the past 10 years. Therefore, under a conservative scenario DRWD's allotment to the Plan Area is assumed to be approximately 323 AFY.

In 2019, approximately 185 acres of the Plan Area were irrigated. Under the Specific Plan, approximately 102.5 acres of irrigated almonds would be removed and replaced with commercial uses under the Specific Plan,

[25] Skaggs, Brian (Civil Engineer). 2019, October 24. Email correspondence. Summers Engineering, Inc.

resulting in a reduction in DRWD water needed for irrigation purposes. Assuming the 185 acres consumed the entire 323 AFY of DWRD supplied water, it is assumed that the proposed 82.5 acres remaining in production would require approximately 149 AFY. Therefore, the residual of 174 AFY of DRWD water would be dedicated to KCCSD. As noted above, KCCSD's SWTP incurs water losses of approximately 10 percent as a result of various processes. With an additional 10 percent reduction, the total additional water supply allocated to KCCSD would be approximately 156 AFY.

With the additional 156 AFY, KCCSD would have 505 AFY to supply to the proposed project and its customers, which exceeds the required 466 AFY needed to supply the total demand as shown in Table 5. Therefore, there is sufficient available water throughout the year 2040 to meet KCCSD's and the project's water demands.

2.6 WATER SHORTAGE CONTINGENCY PLANNING

To prepare for water shortages, KCCSD will request Article 21 water supplies from the SWP on an annual basis when the water supply is does not meet demand.

Furthermore, KCCSD adopted Resolution No. 2015-7 in response to California Governor Edmund Brown Jr. State of Emergency proclamation due to severe drought condition on January 17, 2014. The resolution adopted the following mandatory policies throughout the duration of the drought emergency:

- The unreasonable use or unreasonable method of use of water is prohibited. Unreasonable uses of water include, but are not limited to, the following:
    - Allowing water to leave the service recipient's property by drainage onto adjacent properties or public or private roadways or streets due to excessive irrigation and/or uncorrected leaks;
    - Failing to repair a water leak; and
    - Using water to wash down sidewalks, driveways, parking areas, tennis courts, patios or other paved areas, except to alleviate immediate public safety or sanitation hazards.
- Outdoor water use shall conform to the following. Lawns and/or ground covers may be watered, and landscaping may be irrigated, including construction meter irrigation only during the following designated hours and designated days:
    - Lawns and/or ground cover may be watered and landscaping may be irrigated for properties on North-South Streets only on Wednesdays and Sundays;
    - Lawns and/or ground cover may be watered and landscaping may be irrigated for properties on East West Streets only on Tuesdays and Saturdays; and
    - Watering lawns and/or ground cover and irrigating landscaping is prohibited on Mondays, Thursdays, Fridays and on any day of the week from 9:00 a.m. to 7:00 p.m.

- Irrigation timers shall be adjusted to comply with these provisions.
- The use of greywater to irrigate fruit trees, lawns, ground covers, ornamental trees and shrubs is permitted on any day and at any time provided, however, that greywater may only be used in accordance with all applicable regulations.
- All open hoses shall be equipped with automatic, positive shut-off nozzles.
- Swimming pools, hot tubs, spas, ponds, and fountains shall be equipped with recirculating pumps.
- All plumbing leaks, improperly adjusted sprinklers, or other water conduits/fixtures that require repair or adjustment shall be corrected to the satisfaction of KCCSD.
- No person shall use water to wash down sidewalks, driveways, parking areas, tennis courts, patios, or other paved areas, except to alleviate immediate fire or sanitation hazards.
- No person shall allow water to leave his or her property by drainage onto adjacent properties or public or private roadways or streets due to excessive irrigation and/or uncorrected leaks.
- Washing of automobiles, trucks, trailers, boats, airplanes and other types of mobile equipment, is permitted at any time with a hand-held bucket or a hand-held hose equipped with an automatic, positive shut-off nozzle for quick rinses. Washing may be done at any time on the immediate premises of a commercial car wash or commercial service station, or by a mobile car wash or on-site car wash using high pressure washing equipment. Further, such washings are exempted from these regulations where the health, safety, and welfare of the public is contingent upon frequent vehicle cleanings, such as garbage trucks and vehicles to transport food and perishables.
- Use of water from fire hydrants shall be limited to firefighting, related activities or other activities necessary to maintain the health, safety, and welfare of the citizens of KCCSD.[26]

- Restaurants shall not serve water to customers except when specifically requested by the customers.

If water shortage circumstances arise in the future, KCCSD would reinstate the requirements of Resolution No. 2015-7.

2.7 WATER EFFICIENCY STRATEGIES

The Kettleman City Community Plan (KCCP) includes a water conservation goal as well as objectives and policies. KCCP Goal 8B aims at ensuring sustainable sources of quality water are available to provide necessary

[26] Kettleman City Community Services District, June 2015, Resolution No. 2015-7 A Resolution of the Board of Directors of the Kettleman City Community Services District Declaring Drought Emergency and instituting Specified Water Conservation Measures in Response Thereto.

water service to the existing and planned future growth areas of the community. The objectives for Goal 8B are:

- **Objective 8B.1**: Increase water conservation efforts within the community to maximize utilization of the Community's valuable water resources.
    - **Policy 8B.1.1**: Require all new development to install water meters and encourage the Kettleman City Community Services District to migrate existing water customers to water meters.
    - **Policy 8B.1.3**: Coordinate with KCCSD to explore options for integrating reclaimed water usage within new growth areas.[27]

Furthermore, following Governor Brown's declaration of a state of emergency on July 15, 2014, the State Water Resources Board (SWRCB) adopted Resolution No. 2014-0038. Although the emergency regulation was partially repealed by Resolution No. 2017-0024, the remaining regulation prohibits several activities, including (1) the application of potable water to outdoor landscapes in a manner that causes excess runoff; (2) the use of a hose to wash a motor vehicle except where the hose is equipped with a shut-off nozzle; (3) the application of potable water to driveways and sidewalks; (4) the use of potable water in nonrecirculating ornamental fountains; and (5) the application of potable water to outdoor landscapes during and within 48 hours after measurable rainfall. Most of these water conservation measures are implemented under KCCSD's Resolution No. 2015-7.

To improve water savings in the landscaping sector, the DWR implements a Model Water Efficient Landscape Ordinance. The Model Ordinance promotes efficient landscapes in new developments and retrofitted landscapes. New development projects that include landscape areas of 500 square feet or more are subject to the Ordinance. This applies to residential, commercial, industrial, and institutional projects that require a permit, plan check, or design review.

Additionally, the California Green Building Standards Code (CALGreen; Title 24, California Code of Regulations, Part 11) establishes mandatory residential and nonresidential measures for water efficiency and conservation under Sections 4.3 and 5.3. The provisions establish the means of conserving water used indoors, outdoors, and in wastewater conveyance. The code includes standards for water conserving plumbing fixtures and fittings and the use of potable water in landscaped areas.

The Water Conservation Act of 2009, SB X7-7, requires all water suppliers to increase water use efficiency. The legislation sets an overall goal of reducing per capita water use by 20 percent by 2020, with an interim goal of a 10 percent reduction in per capita water use by 2015. Effective in 2016, urban retail water suppliers who do not meet the water conservation requirements established by this bill are not eligible for state water grants or loans. The SB X7-7 requires that urban water retail suppliers determine baseline water use and set reduction targets according to specified standards, it also requires that agricultural water suppliers prepare plans and implement efficient water management practices.

[27] Kettleman City, 2009. Kettleman City Community Plan. http://www.countyofkings.com/home/showdocument?id=3130

With implementation of these water efficiency measures, future residential and commercial development within Kettleman City, as well as the proposed project, would result in a per capita reduction in water usage and enable KCCSD to meet its customer's demands with future growth.

2.8 SUMMARY

This WSA was prepared to assess the water demand and water supply with implementation of the proposed project. As shown in Table 4, the total indoor water demand for the proposed project is estimated to be 31 AFY for Phase I and 47 AFY at full buildout (Phase II). As discussed previously, all outdoor water use for the project, including continued agricultural use within the project site, will be supplied by DRWD and therefore is not included in this evaluation.

According to the information provided herein, KCCSD has adequate supplies to serve all customers, including the proposed project, through 2040, accounting for projected population increases and corresponding increases in water demand. The projected water demand for the proposed project is 47 AFY and is 9.3 percent of the 505 AFY available to KCCSD. Therefore, implementation of the proposed project will not obstruct KCCSD's ability to meet water demands of its customers.

This WSA concludes that KCCSD will have sufficient water supplies available through the year 2040 to meet all projected water demands associated with its existing and future customers, including the proposed project. In the unlikely event of a water shortage, KCCSD will implement water efficiency strategies to ensure that sufficient water supplies are available to serve its customers, including the project and existing and future users.