APPENDIX A
AIR QUALITY IMPACT ANALYSIS (AQIA)

AIR QUALITY IMPACT ANALYSIS

CLEMENTS RANCH TENTATIVE TRACT MAP NO. 5606

VISALIA

OCTOBER 2025

AIR QUALITY IMPACT ANALYSIS

CLEMENTS RANCH CLEMENTS RANCH TENTATIVE TRACT MAP NO. 5606 PROJECT

Prepared for:

D.R. Horton
419 W. Murray Avenue
Visalia, CA 93291
Contact Person: Aman Narwal
Phone: (559) 636-9850

Consultant:

5080 California Avenue, Suite 220
Bakersfield, CA 93309
Contact: Jaymie Brauer
Phone: (661) 616-2600

October 2025

© Copyright by Quad Knopf, Inc.
Unauthorized use prohibited.
Project #240208

Table of Contents

List of Acronyms and Abbreviations ..... *iv*

SECTION 1 - Executive Summary *1-1*

SECTION 2 - Introduction *2-1*

2.1 - Purpose 2-1
2.2 - General Project Description 2-1

SECTION 3 - Setting *3-1*

3.1 - Air Quality Standards 3-1
3.2 - Existing Air Quality 3-5
3.2.1 - Ozone (O_3) 3-6
3.2.2 - Suspended Particulate Matter (PM_{10} and $PM_{2.5}$) 3-6
3.2.3 - Carbon Monoxide (CO) 3-6
3.2.4 - Nitrogen Dioxide (NO_2) and Hydrocarbons 3-7
3.2.5 - Sulfur Dioxide 3-7
3.2.6 - Lead (Pb) and Suspended Sulfate 3-8
3.3 - Climate 3-8
3.4 - Climate Change and Greenhouse Gases 3-9
3.4.1 - Global Climate Change 3-9
3.4.2 - Effects of Global Climate Change 3-12
3.4.3 - Global Climate Change Regulatory Issues 3-13

SECTION 4 - Impact Assessment *4-1*

4.1 - Significance Criteria 4-1
4.1.1 - Thresholds Adopted for the Evaluation of Air Quality Impacts under CEQA 4-1
4.1.2 - Threshold for Ambient Air Quality Impacts 4-2
4.1.3 - Thresholds for Hazardous Air Pollutants 4-2
4.1.4 - Global Climate Change Thresholds of Significance 4-3
4.2 - Project Related Emissions 4-4
4.2.1 - Short-Term Emissions 4-5
4.2.2 - Long-Term Operational Emissions 4-6
4.3 - Potential Impacts on Sensitive Receptors 4-7
4.4 - Potential Impacts to Visibility to Nearby Class 1 Areas 4-8
4.5 - Potential Impacts from Carbon Monoxide 4-8
4.6 - Predicted Health Impacts 4-9
4.7 - Potential Impacts from Valley Fever 4-11
4.8 - Potential Impacts from Asbestos 4-12
4.9 - Odor Impacts and Mitigation 4-12

4.10 - Impacts to Ambient Air Quality 4-13
4.11 - Impacts to Greenhouse Gases and Climate Change 4-15

SECTION 5 - Cumulative Impacts 5-1

5.1 - Cumulative Regional Air Quality Impacts 5-1
5.2 - Cumulative Local Air Quality Impacts 5-3
5.3 - Cumulative Hazardous Air Pollutants 5-3
5.4 - Cumulative Carbon Monoxide (CO) – Mobile Sources 5-3

SECTION 6 - Consistency with the Air Quality Attainment Plan 6-1

6.1 - Required Evaluation Guidelines 6-1
6.2 - Consistency with the Tulare Council of Government's Regional Conformity Analysis 6-2

SECTION 7 - Mitigation and Other Recommended Measures 7-1

7.1 - Applicable PM_{10} Reduction Measures 7-1
7.2 - Recommended Measures to Reduce Equipment Exhaust 7-2
7.3 - Recommended Measures to Reduce Equipment Exhaust 7-2

SECTION 8 - Level of Significance After Mitigation 8-1

SECTION 9 - References 9-1

Appendices

Appendix A – Project Emission Calculations
Appendix B – Health Risk Assessment Modeling Files (Electronic)
Appendix C – Ambient Air Quality Analysis Modeling Files (Electronic)

List of Figures

Figure 2-1 Regional Location 2-2
Figure 2-2 Project Location 2-3
Figure 2-3 Project Site Topography 2-4
Figure 3-1 CARB Monitoring Network 3-4
Figure 6-1 Tulare County Zoning 6-4

List of Tables

Table 3-1 Federal and California Standards 3-2
Table 3-2 SJVAB Attainment Status 3-3
Table 3-3 Existing Air Quality Monitoring Data in Project Area 3-5
Table 3-4 Bakerfield, California Weather Data 3-9
Table 4-1 SJVAPCD CEQA Thresholds of Significance 4-2
Table 4-2 Measures of Significance – Toxic Air Contaminants 4-3

Table 4-3 Short-Term Project Emissions 4-6
Table 4-4 Post-Project Max Year (Operational Emissions) 4-7
Table 4-5 Sensitive Receptors Located < 1 miles from Project 4-8
Table 4-5 Potential Maximum Impacts Predicted by HARP 4-11
Table 4-6 Estimated Annual GHG Emissions (MT/Year) 4-15
Table 5-1 Comparative Analysis Based on SJVAB 2024 Inventory 5-2
Table 5-2 Emission Inventory SJVAB 2030 Projection – Tons per Year 5-2
Table 5-3 Emission Inventory Tulare County 2030 Projection – Tons per Year 5-2
Table 5-4 2030 Emissions Projections – Proposed Project, Tulare County and SJVAB 5-3

LIST OF ACRONYMS AND ABBREVIATIONS

°C	degrees Celsius
°F	degrees Fahrenheit
AAQA	Ambient Air Quality Analysis
AB	Assembly Bill
AERMOD	Air Dispersion Modeling and Risk Assessment Tool
AQAP	Air Quality Attainment Plans
AQIA	Air Quality Impact Analysis
BACT	best available control technology
BAU	business as usual
BMCM	Bulk Material Control Measures
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CAT	Climate Action Team
CCAA	California Clean Air Act
CEQA	California Environmental Quality Act
CFCs	chlorofluorocarbons
CH_4	methane
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	CO_2 equivalents
EGR	exhaust gas recirculation
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
GAMAQI	Guidance for Assessing and Mitigating Air Quality Impacts
GHG	greenhouse gas
GPA	General Plan Amendments
GWP	Global Warming Potential
H_2S	hydrogen sulfide
HAPs	hazardous air pollutants
HARP	Hotspots Analysis and Reporting Program
HI	hazard index
IPCC	Intergovernmental Panel on Climate Change
TulareCOG	Tulare Council of Governments
LOS	Level of Service
M-1	Light Manufacturing
M-2	General Manufacturing
M-3	Heavy Industrial
MMT CO_2e	million metric tons of CO_2 equivalent
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards

NO_2	nitrogen dioxide
NOx	nitrogen oxides
NSR	New Source Review
O_3	ozone
OEHHA	Office of Environmental Health Hazard Assessment
Pb	lead
PM	particulate matter
PM_{10}	particulate matter 10 micrometers
$PM_{2.5}$	particulate matter 2.5 micrometers
PMI	point of maximum impact
PSD	Prevention of Significant Deterioration
RACM	Reasonably Available Control Measures
ROG	reactive organic gases
RPS	Renewables Portfolio Standard
SB	Senate Bill
SIL	significant impact levels
SIPs	State Implementation Plans
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SO_2	sulfur dioxide
SOx	sulfur oxides
USGCRP	United States Global Change Research Program
USGS	United States Geological Survey
VDE	visible dust emissions
VERA	Voluntary Emission Reduction Agreement

SECTION 1 - EXECUTIVE SUMMARY

Quad Knopf, Inc. (QK) has completed an Air Quality Impact Analysis (AQIA) for the Clements Ranch Residential Project (Project). The Project is generally bound by Union Pacific Railroad to the north, Road 148 to the east, East Caldwell Avenue to the South and South Lovers Lane to the west. The project is located in southeast Visalia, CA within the County of Tulare.

The project site is located on approximately 75-acres parcels (APN 127-020-20 & -21) to be developed as part of Tentative Tract Map No. 5606. The Project proposes to develop approximately 153 single-family medium density units,139 single-family low-density units and 375 multi-family units for a total of approximately 667 units. For purposes of environmental review, an additional 375 multi-family units that could be built in the future is included in the analysis.

The proposed Project's construction and operations would include the following criteria pollutant emissions: reactive organic gases (ROG), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and suspended particulate matter (PM_{10} and $PM_{2.5}$). Project operations would generate air pollutant emissions from mobile (vehicle activity from delivery trucks, consumers, and employees), energy sources (natural gas and electricity usage), and area sources (incidental activities related to architectural coating, consumer products, and landscape maintenance). Project construction and operational activities would also generate greenhouse gas (GHG) emissions. Criteria and GHG emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2022.1.1.30 (California Air Pollution Control Officers Association (CAPCOA), 2025), which is the most current version of the model approved for use by the San Joaquin Valley Air Pollution Control District (SJVAPCD).

Table 4-3 presents the Project's construction emissions and provides substantial evidence to support a less-than-significant air quality impact on the San Joaquin Valley Air Basin (SJVAB).

Table 4-4 presents the Project's operations emissions and provides substantial evidence to support a less-than-significant air quality impact on the SJVAB after mitigation.

SJVAPCD uses a single threshold for the determination of significance for both project-specific and cumulative impacts. As such, a qualitative evaluation of the cumulative projects supports the finding that the Project's contribution would not be cumulatively considerable because the proposed Project's incremental emissions would be *less than significant*.

SECTION 2 - INTRODUCTION

2.1 - Purpose

This AQIA was prepared pursuant to the SJVAPCD Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI) (SJVAPCD, 2015) and the California Environmental Quality Act (CEQA) Statute and Guidelines (CEQA, 2025).

2.2 - General Project Description

The Project is generally bound by Union Pacific Railroad to the north, Road 148 to the east, East Caldwell Avenue to the South and South Lovers Lane to the west. The project is located in southeast Visalia, CA within the County of Tulare.

The project site is located on approximately 75-acres parcels (APN 127-020-20 & -21) to be developed as part of Tentative Tract Map No. 5606. The Project proposes to develop a mixed density residential subdivision on an approximately 78-acre site that would consist of approximately 153 single-family medium density units and 139 single-family low-density units, for a total of approximately 667 units. An additional 375 multi-family units that could be built in the future is included in the analysis.

All residential units will be equipped with 450-watt solar panels, utilize all electric appliances and will be EV-ready, pre-wired during construction to allow for installation of EV residential charger in the future.

Figure 2-1 depicts the regional location and Figure 2-2 depicts an aerial view of the Project location.

Figure 2-3 depicts the Project site's topography. The Project site is located at an elevation of approximately 350 feet above mean sea level and is surrounded by residential, industrial, and empty parcels.

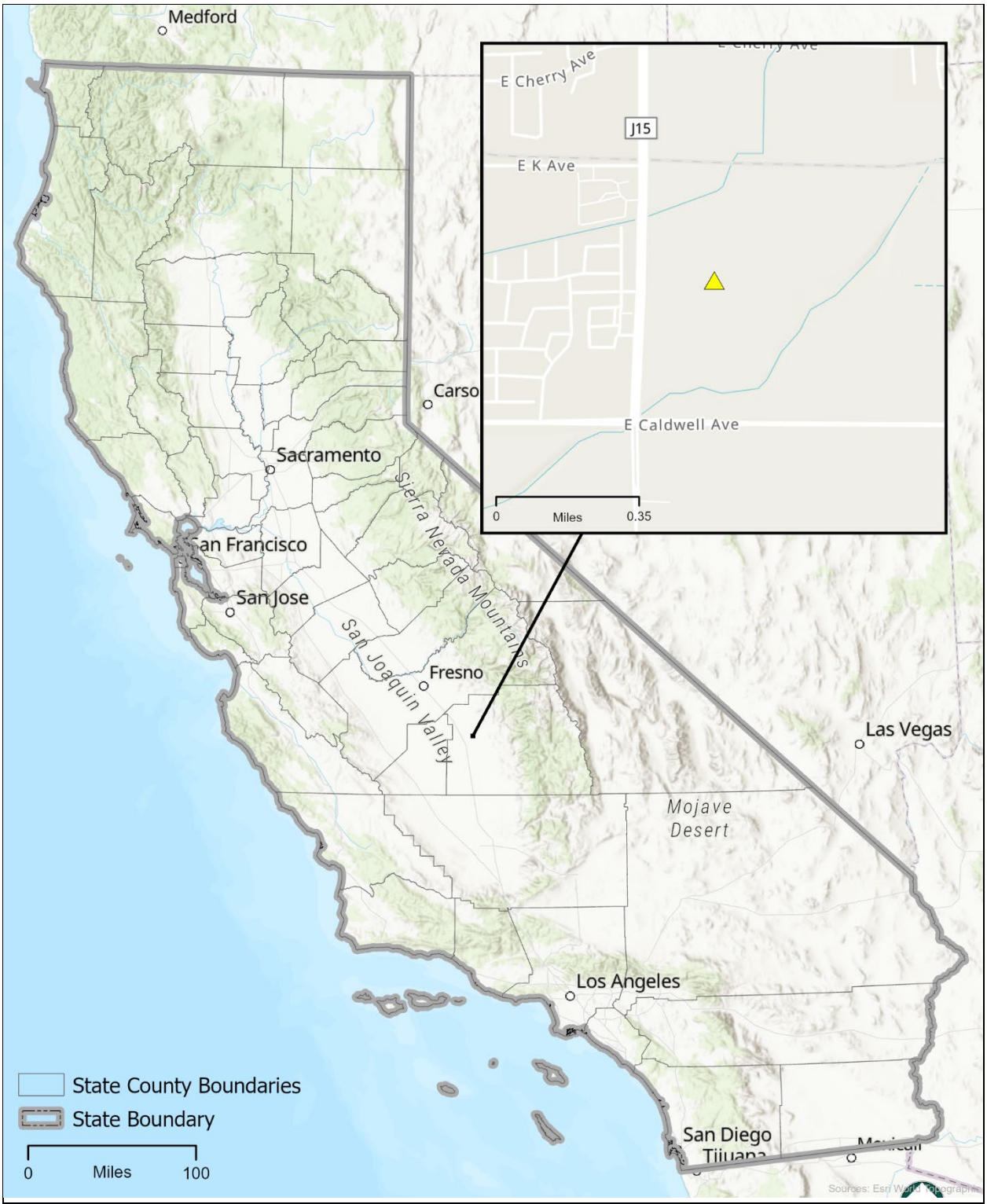


Figure 2-1
Regional Location

Figure 2-2
Project Location

Figure 2-3
Project Site Topography

SECTION 3 - SETTING

Protection of public health is maintained through the attainment and maintenance of ambient air quality standards for various atmospheric compounds and the enforcement of emissions limits for individual stationary sources. The Federal Clean Air Act requires that the U.S. Environmental Protection Agency (EPA) establish National Ambient Air Quality Standards (NAAQS) to protect the health, safety, and welfare of the public. NAAQS have been established for ozone (O_3), CO, NO_2, SO_2, PM_{10} and $PM_{2.5}$, and lead (Pb). California has also adopted ambient air quality standards (CAAQS) for these "criteria" air pollutants. CAAQS are more stringent than the corresponding NAAQS and include standards for hydrogen sulfide (H_2S), vinyl chloride (chloroethene), and visibility-reducing particles. The U.S. Clean Air Act Amendments of 1977 required each state to identify areas that were in non-attainment of the NAAQS and to develop State Implementation Plans (SIPs) containing strategies to bring these non-attainment areas into compliance. NAAQS and CAAQS designation/classification for Tulare County are presented in Section 3.1 below.

Responsibility for the regulation of air quality in California lies with the California Air Resources Board (CARB) and the 35 local air districts, with oversight responsibility held by the EPA. CARB is responsible for regulating mobile source emissions, establishing CAAQS, conducting research, managing regulation development, and providing oversight and coordination of the activities of the 35 air districts. The air districts are primarily responsible for regulating stationary source emissions and monitoring ambient pollutant concentrations. CARB also determines whether air basins, or portions thereof, are "unclassified," in "attainment," or in "non-attainment" for the NAAQS and CAAQS relying on statewide air quality monitoring data.

3.1 - Air Quality Standards

The Project area is located within Tulare County in the San Joaquin Valley Air Basin (SJVAB or Basin). Tulare County is included among the eight counties that comprise the SJVAPCD. The SJVAPCD acts as the regulatory agency for air pollution control in the Basin and is the local agency empowered to regulate air pollutant emissions for the Project area. Table 3-1 provides the NAAQS and CAAQS.

Table 3-1
Federal and California Standards

Pollutant	Averaging Time	NAAQS	CAAQS
		Concentration	
O_3	8-hour	0.070 ppm (137 µg/m³)[a]	0.070 ppm (137 µg/m³)
	1-hour		0.09 ppm (180 µg/m³)
CO	8-hour	9 ppm (10 µg/m³)	9 ppm (10 µg/m³)
	1-hour	35 ppm (40 µg/m³)	20 ppm (23 µg/m³)
NO_2	Annual Average	53 ppb (100 µg/m³)	0.030 ppm (57 µg/m³)
	1-Hour	100 ppb (188.68 µg/m³)	0.18 ppm (339 µg/m³)
SO_2	3-Hour	0.5 ppm (1,300 µg/m³)	
	24 Hour	0.14 ppm (365 µg/m³)	0.04 ppm (105 µg/m³)
	1-Hour	75 ppb (196 µg/m³)	0.25 ppm (655 µg/m³)
Particulate Matter (PM_{10})	Annual Arithmetic Mean		20 µg/m³
	24-Hour	150 µg/m³	50 µg/m³
Fine Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	12 µg/m³	12 µg/m³
	24-Hour	35 µg/m³	
Sulfates	24-Hour		25 µg/m³
Pb[d]	Rolling Three-Month Average	0.15 µg/m³	
	30 Day Average		1.5 µg/m³
H_2S	1-Hour		0.03 ppm (42 µg/m³)
Vinyl Chloride (chloroethene)	24-Hour		0.010 ppm (26 µg/m³)
Visibility Reducing particles	8 Hour (1000 to 1800 PST)		[b]

ppm = parts per million
ppb = parts per billion
mg/m³ = milligrams per cubic meter
µg/m³ = micrograms per cubic meter

Source: CARB 2024b
a. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm
b. In 1989, CARB converted both the general statewide 10-mile visibility standards and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Under the provisions of the U.S. Clean Air Act, the Tulare County portion of the SJVAB has been classified as non-attainment/extreme, non-attainment/severe, non-attainment, attainment/ unclassified, attainment, or unclassified under the established NAAQS and CAAQS for various criteria pollutants. Table 3-2 provides the SJVAB's designation and classification based on the various criteria pollutants under both NAAQS and CAAQS.

Table 3-2
SJVAB Attainment Status

Pollutant	NAAQS[a]	CAAQS[b]
Ozone – 1 Hour	No Federal Standard[f]	Non-attainment/Severe
Ozone – 8 Hour[8]	Non-attainment/Extreme[e]	Non-attainment
PM_{10}	Attainment[c]	Non-attainment
$PM_{2.5}$	Non-attainment[d]	Non-attainment
Carbon Monoxide	Attainment/Unclassified	Attainment/Unclassified
Nitrogen Dioxide	Attainment/Unclassified	Attainment
Sulfur Dioxide	Attainment/Unclassified	Attainment
Lead Particulates	No Designation/Classification	Attainment
H_2S	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility Reducing Particulates	No Federal Standard	Unclassified
Vinyl Chloride	No Federal Standard	Attainment

Source: SJVAPCD 2025a
Notes:
a. See 40 CFR Part 81
b. See CCR Title 17 Sections 60200-60210
c. On September 25, 2008, EPA redesignated the San Joaquin Valley to attainment for the PM_{10} National Ambient Air Quality Standard (NAAQS) and approved the PM_{10} Maintenance Plan.
d. The Valley is designated non-attainment for the 1997 $PM_{2.5}$ NAAQS. EPA designated the Valley as non-attainment for the 2006 $PM_{2.5}$ NAAQS on November 13, 2009 (effective December 14, 2009).
e. Though the Valley was initially classified as serious non-attainment for the 1997 8-hour O_3 standard, EPA approved Valley reclassification to extreme non-attainment in the Federal Register on May 5, 2010 (effective June 4, 2010).
f. Effective June 15, 2005, the EPA revoked the federal 1-hour O_3 standard, including associated designations and classifications. EPA had previously classified the SJVAB as extreme non-attainment for this standard. EPA approved the 2004 Extreme Ozone Attainment Demonstration Plan on March 8, 2010 (effective April 7, 2010). Many applicable requirements for extreme 1-hour O3 non-attainment areas continue to apply to the SJVAB.

The SJVACPD, along with CARB, operates an air quality monitoring network that provides average concentrations of those pollutants for which State or federal agencies have established ambient air quality standards. Information from the various monitoring stations is available from the corresponding agency's websites. A map of the monitoring stations in the SJVAB is provided in Figure 3-1 below.

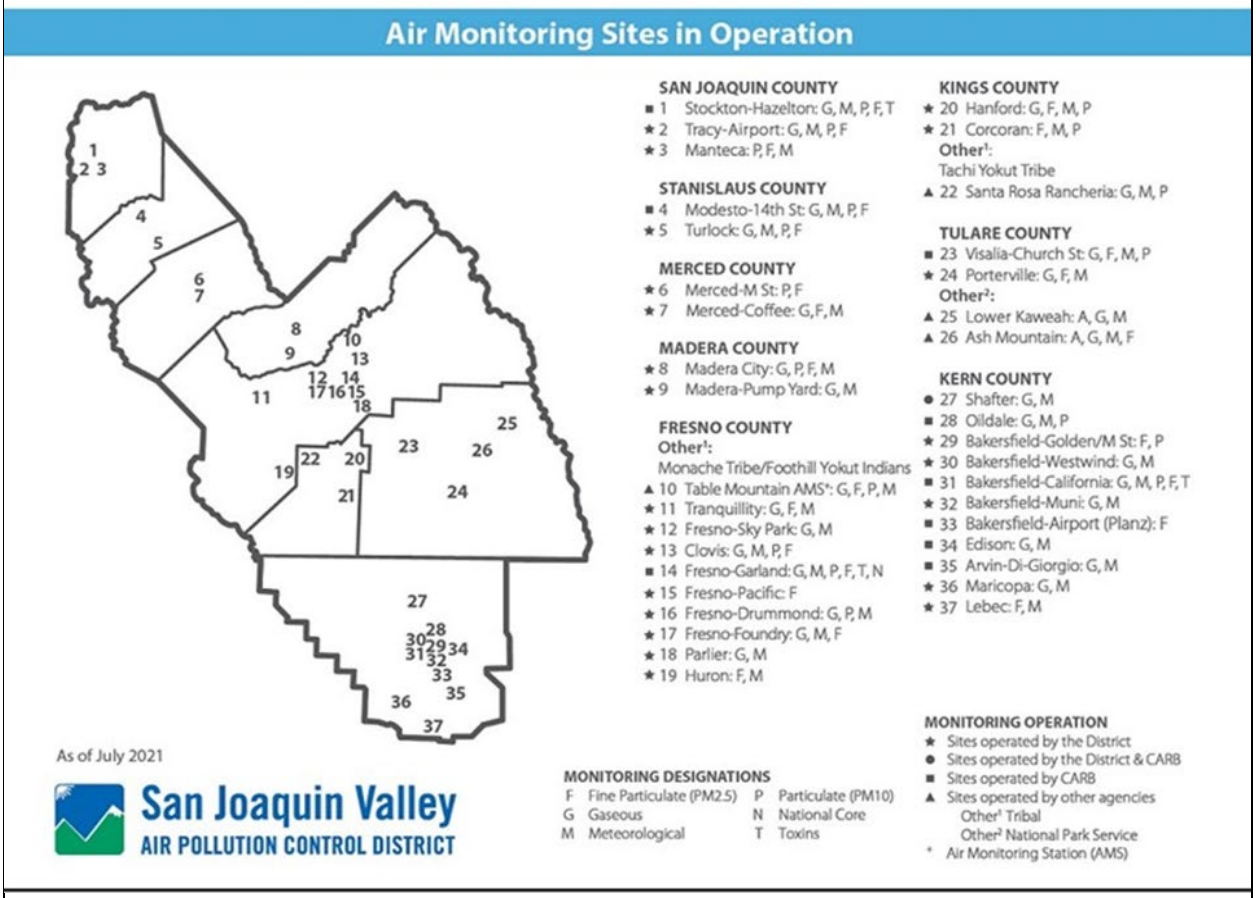


Figure 3-1
CARB Monitoring Network

3.2 - Existing Air Quality

For the purposes of background data and this air quality assessment, this analysis relied on data collected in the last three years for the CARB monitoring stations that are located in closest proximity to the Project site. Table 3-3 provides the background concentrations for O_3, particulate matter of 10 microns (PM_{10}), particulate matter of less than 2.5 microns ($PM_{2.5}$), CO, NO_2, Pb and H_2S as of 2023. Information is provided for the Visalia – W. Ashland Avenue, Porterville – Newcomb St., Hanford – S Irwin St, and Fresno - Garland monitoring stations for 2022 through 2024. No data is available for SO_2, Vinyl Chloride, or other toxic air contaminants in the SJVAB.

Table 3-3
Existing Air Quality Monitoring Data in Project Area

Pollutant and Monitoring Station Location	Maximum Concentration			Days Exceeding Standard		
	2022	2023	2024	2022	2023	2024
O_3 – 1-hour CAAQS (0.09 ppm)						
Visalia – W. Ashland Ave	0.114	0.100	0.103	8	3	8
Porterville – Newcomb St	0.099	0.102	0.106	1	7	5
O_3 – 8-hour CAAQS (0.07 ppm)						
Visalia – W. Ashland Ave	0.099	0.087	0.094	64	30	63
Porterville – Newcomb St	0.085	0.089	0.094	25	22	27
O_3 – 8-hour NAAQS (0.070 ppm)						
Visalia – W. Ashland Ave	0.098	0.087	0.093	62	27	62
Porterville – Newcomb St	0.085	0.089	0.094	62	49	51
PM_{10} – 24-hour CAAQS (50 µg/m³)						
Visalia – W. Ashland Ave	125.2	107.5	176.9	111	102	104
Hanford – S Irwin St.	251.6	159.3	169.0	141	114	112
PM_{10} – 24-hour NAAQS (150 µg/m³)						
Visalia – W. Ashland Ave	132.7	108.8	173.0	0	0	1
Hanford – S Irwin St.	250.8	157.3	173.0	1	1	4
$PM_{2.5}$ - 24-hour NAAQS (35 µg/m³)						
Visalia – W. Ashland Ave	48.3	42.9	64.7	17	6	8
Hanford – S Irwin St.	62.9	54.4	53.7	27	11	8
CO - 8-Hour CAAQS & NAAQS (9.0 ppm)						
No data collected	*	*	*	*	*	*
NO_2 - 1-Hour CAAQS (0.18 ppm)						
Visalia – W. Ashland Ave	0.049	0.039	0.042	0	0	0
Hanford – S Irwin St.	0.045	0.055	0.041	0	0	0
NO_2 - 1-Hour NAAQS (0.10 ppm)						
Visalia – W. Ashland Ave	0.0497	0.0399	0.0427	0	0	0
Hanford – S Irwin St.	0.0458	0.0552	0.0410	0	0	0
SO_2 – 24-hour Concentration - CAAQS (0.04 ppm) & NAAQS (0.14 ppm)						
No data collected	*	*	*	*	*	*
Pb - Maximum 30-Day Concentration CAAQS (1500 ng/m³)						
Fresno – Garland	42	6.5	6.5	*	*	*

Source: CARB 2025
Notes: ppm= parts per million
* There was insufficient (or no) data available to determine the value.

The following describes criteria air pollutants, typical sources, health effects, and recently documented pollutant levels in the Project vicinity.

3.2.1 - OZONE (O_3)

The SJVAB has high concentrations of O_3, and these high levels are known to cause eye irritation and impair respiratory functions. High levels of O_3 can also affect plants and materials. Grapes, lettuce, spinach, and many types of garden flowers and shrubs are particularly vulnerable to O_3 damage. O_3 is not directly emitted into the atmosphere; it is a secondary pollutant produced from a photochemical interaction between hydrocarbons and nitrogen oxides (NOx). One to three hours of strong sunlight in a stable atmosphere creates O_3. The "O_3 season," therefore, typically spans from April through October. O_3 is a regional pollutant; wind transports and diffuses the precursors while activating the photochemical reaction process. The data presented in Table 3-3 shows that the Project area monitoring stations exceeded the 1-hour average ambient O_3 CAAQS and the 8-hour average ambient O_3 NAAQS and CAAQS between 2022 through 2024.

3.2.2 - SUSPENDED PARTICULATE MATTER (PM_{10} AND $PM_{2.5}$)

Both NAAQS and CAAQS now apply to particulates under 10 microns (PM_{10}). Since the smaller diameter fraction of total suspended particulates is documented to represent the greatest health hazard, EPA has established NAAQS for particulates under 2.5 microns ($PM_{2.5}$). The Project area is classified as attainment for PM_{10} and non-attainment for $PM_{2.5}$ for NAAQS.

Dust and fumes from industrial and agricultural operations generate particulate matter. Natural activities, such as wind-raised dust, fires, and ocean spray, also increase the level of particulates in the atmosphere. The largest source of PM_{10} and $PM_{2.5}$ in Tulare County is vehicle movement over paved and unpaved roads from demolition and construction activities and farming operations. PM_{10} and $PM_{2.5}$ are considered regional pollutants, with elevated levels typically occurring over a wide geographic area. Concentrations tend to be highest in the winter, during periods of high atmospheric stability and low wind speed. Very small particulates may contain absorbed gases that produce injury to the respiratory tract. Particulates of aerosol size suspended in the air can both scatter and absorb sunlight, producing haze and reducing visibility. They can also damage a wide range of materials. Table 3-3 shows that PM_{10} levels exceeded the CAAQS, and both PM_{10} and $PM_{2.5}$ exceeded the NAAQS in 2022 and 2024, respectively. Similar levels can be expected to occur in the vicinity of the Project site.

3.2.3 - CARBON MONOXIDE (CO)

Ambient CO concentrations normally correspond closely to the spatial and temporal distributions of vehicular traffic. Relatively high concentrations of CO would be expected along heavily traveled roads and near busy intersections. Wind speed and atmospheric mixing also influence CO concentrations.

Internal combustion engines, principally in vehicles, produce CO due to incomplete fuel combustion. Various industrial processes also produce CO emissions through incomplete combustion. Gasoline-powered motor vehicles are typically the major source of this contaminant. CO does not irritate the respiratory tract but passes through the lungs directly into the bloodstream, and by interfering with the transfer of fresh oxygen to the blood, deprives sensitive tissues of oxygen, thereby aggravating cardiovascular disease, causing fatigue, headaches, and dizziness. CO is not known to have adverse effects on vegetation, visibility, or materials. Table 3-3 reports insufficient data for the CO monitoring at any monitoring stations during the three-year period from 2022 through 2024.

3.2.4 - NITROGEN DIOXIDE (NO_2) AND HYDROCARBONS

Tulare County has been designated as an unclassified area for the NAAQS for NO_2. NO_2 is the "whiskey brown" colored gas readily visible during periods of heavy air pollution. Mobile sources account for nearly all the County's NOx emissions, most of which are emitted as NO_2. Combustion in motor vehicle engines, power plants, refineries, and other industrial operations are the primary sources in the air basin. Railroads and aircraft are other potentially significant sources of combustion air contaminants. Oxides of nitrogen are direct participants in photochemical smog reactions. The emitted compound, nitric oxide, combines with oxygen in the atmosphere in the presence of hydrocarbons and sunlight to form NO_2 and O_3. NO_2, the most significant of these pollutants, can color the atmosphere at concentrations as low as 0.5 ppm on days of 10-mile visibility. NOx is an important air pollutant in the region because it is a primary receptor of ultraviolet light, which initiates the reactions producing photochemical smog. It also reacts in the air to form nitrate particulates.

Motor vehicles are the major source of reactive hydrocarbons in the basin. Other sources include evaporation of organic solvents and petroleum production and refining operations. Certain hydrocarbons can damage plants by inhibiting growth and by causing flowers and leaves to fall. Levels of hydrocarbons currently measured in urban areas are not known to cause adverse effects in humans. However, certain members of this contaminant group are important components in the reactions which produce photochemical oxidants. Table 3-3 shows that the NO_2 NAAQS and CAAQS were not exceeded over the three-year period of 2022 through 2024. Hydrocarbons are not currently monitored.

3.2.5 - SULFUR DIOXIDE

Tulare County has been designated as an unclassified area for the NAAQS for SO_2. SO_2 is the primary combustion product of sulfur or sulfur-containing fuels. Fuel combustion is the major source of this pollutant, while chemical plants, sulfur recovery plants, and metal processing facilities are minor contributors. Gaseous fuels (natural gas, propane, etc.) typically have lower percentages of sulfur-containing compounds than liquid fuels such as diesel or crude oil. SO_2 levels are generally higher in the winter months. Decreasing levels of SO_2 in the atmosphere reflect the use of natural gas in power plants and boilers.

At high concentrations, SO_2 irritates the upper respiratory tract. At lower concentrations, when respirated in combination with particulates, SO_2 can result in greater harm by injuring

lung tissues. Sulfur oxides (SOx), in combination with moisture and oxygen, result in the formation of sulfuric acid, which can yellow the leaves of plants, dissolve marble, and oxidize iron and steel. SOx can also react to produce sulfates that reduce visibility and sunlight. Table 3-3 shows no data has been reported over the three-year period.

3.2.6 - LEAD (PB) AND SUSPENDED SULFATE

Ambient Pb levels have dropped dramatically due to the increase in the percentage of motor vehicles that run exclusively on unleaded fuel. Ambient Pb levels in Bakersfield (the closest monitoring station to the Project) are well below the ambient standard and are expected to continue to decline; the data reported in Table 3-3 only shows the highest concentration as the number of days exceeding standards is not reported. Suspended sulfate levels have stabilized to the point where no excesses of the State standard are expected in any given year.

3.3 - Climate

The most significant single control on the weather pattern of the San Joaquin Valley is the semi-permanent subtropical high-pressure cell, referred to as the "Pacific High." During the summer, the Pacific High is positioned off the coast of northern California, diverting ocean-derived storms to the north. Hence, the summer months are virtually rainless. During the winter, the Pacific High moves southward, allowing storms to pass through the San Joaquin Valley. Almost all the precipitation expected during a given year occurs from December through April. During the summer, the predominant surface winds are out of the northwest. Air enters the Valley through the Carquinez Strait and flows toward the Tehachapi Mountains. This up-valley (northwesterly) wind flow is interrupted in early fall by the emergence of nocturnal, down-valley (southeasterly) winds, which become progressively more predominant as winter approaches. Wind speeds are generally highest during the spring and lightest in fall and winter. The relatively cool air flowing through the Carquinez Strait is warmed on its journey south through the Valley. On reaching the southern end of the Valley, the average high temperature during the summer is nearly 100 degrees Fahrenheit (°F). Relative humidity during the summer is quite low, causing large diurnal temperature variations. Temperatures during the summer often drop into the upper 60s. In winter, the average high temperatures reach into the mid-50s, and the average low drops to the mid-30s. In addition, another high-pressure cell, known as the "Great Basin High," develops east of the Sierra Nevada Mountain Range during winter. When this cell is weak, a layer of cool, damp air becomes trapped in the basin, and extensive fog results. During inversions, vertical dispersion is restricted, and pollutant emissions are trapped beneath the inversion and pushed against the mountains, adversely affecting regional air quality. Surface-based inversions, while shallow and typically short-lived, are present most mornings. Elevated inversions, while less frequent than ground-based inversions, are typically longer lasting and create more severe air stagnation problems. The winter season characteristically has the poorest conditions for vertical mixing of the entire year.

Meteorological data for various monitoring stations is maintained by the Western Regional Climate Center. Meteorological data for the Project site is expected to be similar to the data

recorded at the Visalia monitoring station. This data is provided in Table 3-4, which contains average precipitation data recorded at the Visalia monitoring station. Over the 121-year period from February of 1895 through June of 2016 (the most recent data available), the average annual precipitation was 10.15 inches.

Table 3-4
Visalia, California Weather Data

Period of Record Monthly Climate Summary for the Period 02/01/1895 to 6/10/2016													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	56.0	62.6	68.0	74.6	82.6	91.1	97.5	96.2	90.1	80.2	67.3	56.8	76.9
Average Min. Temperature (F)	36.9	40.8	43.7	47.5	53.1	59.0	63.5	61.6	57.3	50.2	41.6	36.8	49.3
Average Total Precipitation (in.)	1.97	1.83	1.72	0.98	0.36	0.09	0.01	0.01	0.13	0.48	0.98	1.57	10.15
Average Total SnowFall (in.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average Snow Depth (in.)	0	0	0	0	0	0	0	0	0	0	0	0	0

Percent of possible observations for period of record:
Max. Temp.: 97.4% Min. Temp.: 97.4% Precipitation: 99.3% Snowfall: 97% Snow Depth: 96.8%
Source: Western Regional Climate Center, 2025.

3.4 - Climate Change and Greenhouse Gases

3.4.1 - GLOBAL CLIMATE CHANGE

"Global climate change" refers to changes in average meteorological conditions on the earth with respect to temperature, precipitation, and storms, lasting for decades or longer. The term "global climate change" is often used interchangeably with the term "global warming," but "global climate change" is preferred by some scientists and policymakers to "global warming" because it helps convey the notion that in addition to rising temperatures, other changes in global climate may occur. Climate change may result from the following influences:

- Natural factors, such as changes in the sun's intensity or slow changes in the Earth's orbit around the sun.
- Natural processes within the climate system (e.g., changes in ocean circulation).
- Human activities that change the atmosphere's composition (e.g., through burning fossil fuels) and the land surface (e.g., deforestation, reforestation, urbanization, and desertification).

As determined from worldwide meteorological measurements between 1990 and 2005, the primary observed effect of global climate change has been a rise in the average global tropospheric temperature of 0.36 degrees Fahrenheit (°F) per decade. Climate change modeling shows that further warming could occur, which could induce additional changes in the global climate system during the current century. Changes to the global climate system,

ecosystems, and the environment of California could include higher sea levels, drier or wetter weather, changes in ocean salinity, changes in wind patterns, or more energetic aspects of extreme weather (e.g., droughts, heavy precipitation, heat waves, extreme cold, and increased intensity of tropical cyclones). Specific effects from climate change in California may include a decline in the Sierra Nevada snowpack, erosion of California's coastline, and seawater intrusion in the Sacramento-San Joaquin River Delta.

Human activities, including fossil fuel combustion and land use changes, release carbon dioxide (CO_2) and other compounds cumulatively termed greenhouse gases. GHGs are effective at trapping radiation that would otherwise escape the atmosphere. This trapped radiation warms the atmosphere, the oceans, and the earth's surface (USGCRP, 2014). Many scientists believe most of the warming observed over the last 50 years is attributable to human activities" (IPCC, 2014). The increased amount of CO_2 and other GHGs in the atmosphere is the alleged primary result of human-induced warming.

GHGs are present in the atmosphere naturally, released by natural sources, or formed from secondary reactions taking place in the atmosphere. They include CO_2, methane (CH_4), nitrous oxide (N_2O), and O_3. In the last 200 years, substantial quantities of GHGs have been released into the atmosphere, primarily from fossil fuel combustion. These human-induced emissions are increasing GHG concentrations in the atmosphere, therefore enhancing the natural greenhouse effect. The GHGs resulting from human activity are believed to be causing global climate change. While human-made GHGs include CO_2, CH_4, and N_2O, some (like chlorofluorocarbons [CFCs]) are completely new to the atmosphere. GHGs vary considerably in terms of Global Warming Potential (GWP), the comparative ability of each GHG to trap heat in the atmosphere. The GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and the length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG. The definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO_2 over a specified time period. GHG emissions are typically measured in terms of pounds or tons of "CO_2 equivalents" (CO_2e).

Natural sources of CO_2 include the respiration (breathing) of animals and plants and evaporation from the oceans. Together, these natural sources release approximately 150 billion metric tons of CO_2 each year, far outweighing the seven billion metric tons of GHG emissions from fossil fuel burning, waste incineration, deforestation, cement manufacturing, and other human activity. Nevertheless, natural GHG removal processes such as photosynthesis cannot keep pace with the additional output of CO_2 from human activities. Consequently, GHGs are building up in the atmosphere (Enviropedia, 2019).

Methane is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources of CH_4 production include wetlands, termites, and oceans. Human activity accounts for the majority of the approximately 500 million metric tons of CH_4 emitted annually. These anthropogenic sources include the mining and burning of fossil fuels, digestive processes in ruminant livestock such as cattle, rice cultivation, and the decomposition of waste in landfills. The major removal process for atmospheric CH_4, the

chemical breakdown in the atmosphere, cannot keep pace with source emissions; therefore, CH_4 concentrations in the atmosphere are rising.

Worldwide emissions of GHGs in 2008 were 30.1 billion metric tons of CO_2e and have increased considerably since that time (United Nations, 2011). Emissions from the top five emitting countries (China, the United States, India, the Russian Federation, and Japan) and the European Union accounted for approximately 70 percent of total global GHG emissions in 2014. The United States was the number two producer of GHG emissions, behind China. The primary GHG emitted by human activities was CO_2, representing approximately 80 percent of total GHG emissions (U.S. EPA, 2024).

In 2022, the United States emitted approximately 6,343.2 million metric tons of CO_2e. Between 1990 and 2022, CO2 emissions from fossil fuel combustion decreased by 1.1 percent; emissions decreased by 18.2 percent (1,044.7 MMT CO2e) from 2005 levels; and from 2021 to 2022, these emissions increased by 1.0 percent (45.1 MMT CO2e). (U.S. EPA, 2024).

Worldwide, energy-related CO_2 emissions are expected to increase through 2050. Projections indicate that resources, demand, and technology costs will drive the shift from fossil to non-fossil energy sources, but current policies are not enough to decrease global energy-sector emissions. This outcome is largely due to population growth, regional economic shifts toward more manufacturing, and increased energy consumption as living standards improve. Globally, we project increases in energy consumption to outpace efficiency improvements. China remains the primary source of energy-related CO_2 emissions through 2050 across all cases, although its share of total global CO_2 emissions declines. Further, across all cases we project India to displace the United States and our Other Asia-Pacific modeling region to displace Western Europe as the second- and third-highest emitters of energy-related CO_2 emissions by 2050, respectively. (U.S. EIA, 2023).

CARB is responsible for developing and maintaining the California GHG emissions inventory. This inventory estimates the amount of GHGs emitted into and removed from the atmosphere by human activities within California and supports the Assembly Bill (AB) 32 Climate Change Program. CARB's current GHG emission inventory covers the years 2000 through 2017 and is based on fuel use, equipment activity, industrial processes, and other relevant data (e.g., housing, landfill activity, and agricultural lands).

In 2022, emissions from statewide emitting activities were 371.1 million metric tons of CO_2 equivalent (MMT CO_2e), which is 9.3 MMT CO_2e lower than 2021 levels. 2022 emissions have decreased by 24 percent since peak levels in 2004 and are 59.9 MMT CO_2e below the 1990 emissions level and the State's 2020 GHG limit (CARB 2024a).

CARB estimates that transportation was the source of approximately 39 percent of California's GHG emissions in 2022, followed by industrial sources at 23 percent. Other sources of GHG emissions were electricity sources at 16 percent, residential plus commercial activities at 14 percent, and agriculture at 8 percent (CARB, 2024a).

3.4.2 - EFFECTS OF GLOBAL CLIMATE CHANGE

Changes in the global climate are assessed using historical records of temperature changes that have occurred in the past. Climate change scientists use this temperature data to extrapolate a level of statistical significance, specifically focusing on temperature records from the last 150 years (the Industrial Age) that differ from past climate changes in rate and magnitude.

The Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. In its Fifth Assessment Report, the IPCC predicted that the global mean temperature change from 1990 to 2100, could range from 1.1 degree Celsius (°C) to 6.4°C (8 to 10.4°Fahrenheit) (IPCC, 2013). Global average temperatures and sea levels are expected to rise under all scenarios (IPCC, 2014). The IPCC concluded that global climate change was largely the result of human activity, mainly the burning of fossil fuels. However, the scientific literature is not consistent regarding many aspects of climate change, the actual temperature changes during the 20th century, and contributions from human versus non-human activities.

Effects from global climate change may arise from temperature increases, climate-sensitive diseases, extreme weather events, and degradation of air quality. There may be direct temperature effects through increases in average temperature leading to more extreme heat waves and less extreme cold spells. Those living in warmer climates are likely to experience more stress and heat-related problems. Heat-related problems include heat rash and heat stroke, drought, etc. In addition, climate-sensitive diseases may increase, such as those spread by mosquitoes and other disease-carrying insects. Such diseases include malaria, dengue fever, yellow fever, and encephalitis. Extreme events such as flooding and hurricanes can displace people and agriculture. Global warming may also contribute to air quality problems from increased frequency of smog and particulate air pollution.

According to the 2006 California Climate Action Team (CAT) Report, several climate change effects can be expected in California over the course of the next century (CalEPA, 2006). These are based on trends established by the IPCC and are summarized below.

- A diminishing Sierra snowpack declining by 70 percent to 90 percent, threatening the State's water supply.
- A rise in sea levels, resulting in the displacement of coastal businesses and residences. During the past century, sea levels along California's coast have risen about seven inches. If emissions continue unabated and temperatures rise into the higher anticipated warming range, sea level is expected to rise an additional 22 to 35 inches by the end of the century. Sea level rises of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats. (Note: This condition would not affect the proposed Project area, as it is a significant distance away from coastal areas.)
- An increase in temperature and extreme weather events. Climate change is expected to lead to increases in the frequency, intensity, and duration of extreme heat events

and heat waves in California. More heat waves can exacerbate chronic disease or heat-related illness.

- Increased risk of large wildfires if rain increases as temperatures rise. Wildfires in the grasslands and chaparral ecosystems of southern California are estimated to increase by approximately 30 percent toward the end of the 21st century because more winter rain will stimulate the growth of more plant fuel available to burn in the fall. In contrast, a hotter, drier climate could promote up to 90 percent more northern California fires by the end of the century by drying out and increasing the flammability of forest vegetation.
- Increasing temperatures from 8 to 10.4°F under the higher emission scenarios, leading to a 25 percent to 35 percent increase in the number of days that ozone pollution levels are exceeded in most urban areas (see below).
- Increased vulnerability of forests due to forest fires, pest infestation, and increased temperatures.
- Reductions in the quality and quantity of certain agricultural products. The crops and products likely to be adversely affected include wine grapes, fruit, nuts, and milk.
- Exacerbation of air quality problems. If temperatures rise to the medium warming range, there could be 75 to 85 percent more days with weather conducive to ozone formation in Los Angeles and the San Joaquin Valley, relative to today's conditions. This is more than twice the increase expected if rising temperatures remain in the lower warming range. This increase in air quality problems could result in an increase in asthma and other health-related problems.
- A decrease in the health and productivity of California's forests. Climate change can cause an increase in wildfires, an enhanced insect population, and the establishment of non-native species.
- Increased electricity demand, particularly in the hot summer months.
- Increased ground-level ozone formation due to higher reaction rates of ozone precursors.

3.4.3 - GLOBAL CLIMATE CHANGE REGULATORY ISSUES

In 1988, the United Nations established the Intergovernmental Panel on Climate Change to evaluate the impacts of global warming and to develop strategies that nations could implement to curtail global climate change. In 1992, the United Nations Framework Convention on Climate Change established an agreement with the goal of controlling GHG emissions, including methane. As a result, the Climate Change Action Plan was developed to address the reduction of GHGs in the United States. The plan consists of more than 50 voluntary programs. Additionally, the Montreal Protocol was originally signed in 1987 and substantially amended in 1990 and 1992. Pursuant to the Montreal Protocol, the production and consumption of compounds that deplete O_3 in the stratosphere (chlorofluorocarbons [CFCs], halons, carbon tetrachloride, and methyl chloroform) were phased out by 2000 (methyl chloroform was phased out by 2005).

On September 27, 2006, Assembly Bill 32 (AB 32), the California Global Warming Solutions Act of 2006 (the Act), was enacted by the State of California. The legislature stated, "Global

warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California." The Act caps California's GHG emissions at 1990 levels by 2020. The Act defines GHG emissions as all of the following gases: carbon dioxide (CO_2), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. This agreement represents the first enforceable statewide program in the U.S. to cap all GHG emissions from major industries that include penalties for non-compliance. While acknowledging that national and international actions will be necessary to fully address the issue of global warming, AB 32 lays out a program to inventory and reduce GHG emissions in California and from power generation facilities located outside the State that serve California residents and businesses. According to CARB, California has met its 2020 GHG emission reduction target (CARB, 2021).

Subsequent legislation by the California legislature has included Senate Bill (SB) 32, which expanded on AB 32 to reduce GHG emissions to 40 percent below the 1990 levels by 2030; AB 197, which increased the legislative oversight of the CARB by adding two legislatively appointed non-voting members to the CARB Board and provided additional protection to disadvantaged communities; SB 350, which increased California's renewable energy electricity procurement goal; and SB 100, which established a landmark policy requiring renewable energy and zero-carbon resources to supply 100 percent of electrical retail sales to end-use customers and 100 percent of electricity procured to serve State agencies by 2045.

Global warming and climate change have received substantial public attention for more than 20 years. For example, the United States Global Change Research Program was established by the Global Change Research Act of 1990 to enhance the understanding of natural and human-induced changes in the Earth's global environmental system, to monitor, understand, and predict global change, and to provide a sound scientific basis for national and international decision-making. Even so, the analytical tools have not been developed to determine the effect on global warming from a particular increase in GHG emissions, or the resulting effects on climate change in a particular locale. The scientific tools needed to evaluate the impacts that a specific project may have on the environment are even further in the future.

The California Supreme Court's most recent CEQA decision on the Newhall Ranch development case, Center for Biological v. California Department of Fish and Wildlife (November 30, 2015, Case No. 217763), determined that the project's Environmental Impact Report (EIR) did not substantiate the conclusion that the GHG cumulative impacts would be less than significant. The EIR determined that the Newhall Ranch development project would reduce GHG emissions by 31 percent from business as usual (BAU). This reduction was compared to California's target of reducing GHG emissions statewide by 29 percent from business as usual. The Court determined that "the EIR's deficiency stems from taking a quantitative comparison method developed by the Scoping Plan as a measure of the greenhouse gas reduction effort required by the State as a whole, and attempting to use that method, without adjustments, for a purpose very different from its original design." In the Court's final ruling, it offered suggestions that were deemed appropriate use of the BAU methodology:

1. Lead agencies can use the comparison to BAU methodology if they determine what reduction a particular project must achieve in order to comply with statewide goals.
2. Project design features that comply with regulations to reduce emissions may demonstrate that those components of emissions are less than significant.
3. Lead agencies could also demonstrate compliance with locally adopted climate plans or apply specific numerical thresholds developed by some local agencies.

Neither the City of Visalia nor Tulare County have developed specific thresholds for GHGs. As discussed in Section 4.1, the SJVAPCD, a CEQA Trustee Agency for this Project, has developed thresholds to determine the significance of a proposed project – either implement Best Performance Standards or achieve a 29 percent reduction from BAU (a specific numerical threshold). However, the SJVAPCD has established their BAU and baseline emissions based on the years 2002-2004 and 2020, respectively. The 2020 projected baseline has passed, and at this time, no new guidance has been approved for determining BAU and projected baseline for the next target year. Therefore, the 29 percent reduction from BAU cannot be applied to the subject Project in order to determine significance. Additionally, a Best Performance Standards threshold has not been established. For this Project, compliance with locally adopted climate plans will be used to determine the level of significance of GHG. Therefore, the GHG analysis for this Project follows the suggestions from the Court's ruling on the Newhall Ranch development project in order to determine the significance of using the Project design features.

SECTION 4 - IMPACT ASSESSMENT

4.1 - Significance Criteria

To determine whether a proposed Project could create a potential CEQA impact, local, State, and federal agencies have developed various means by which a project's impacts may be measured and evaluated. Such means can generally be categorized as follows:

- Thresholds of significance adopted by air quality agencies to guide lead agencies in their evaluation of air quality impacts under the CEQA.
- Regulations established by air districts, CARB, and EPA for the evaluation of stationary sources when applying for Authorities to Construct, Permits to Operate, and other permit program requirements (e.g., New Source Review).
- Thresholds utilized to determine if a project would cause or contribute significantly to violations of the ambient air quality standards or other concentration-based limits.
- Regulations applied in areas where severe air quality problems exist.

Below are summary tables of these emission-based and concentration-based thresholds of significance for each pollutant, along with a discussion of their applicability.

4.1.1 - THRESHOLDS ADOPTED FOR THE EVALUATION OF AIR QUALITY IMPACTS UNDER CEQA

In order to maintain consistency with CEQA, the SJVAPCD (2015) adopted guidelines to assist applicants in complying with the various requirements. According to the SJVAPCD's GAMAQI, a project would have potentially significant air quality impacts when the project:

- Creates a conflict with or obstructs implementation of the applicable air quality plan.
- Causes a violation of any air quality standard or generates substantial contribution towards exceeding an existing or projected air quality standard.
- Results in a cumulatively considerable net increase of any criteria pollutant for which the project region is designated non-attainment under a NAAQS and CAAQS (including emissions that exceed quantitative thresholds for O_3 precursors).
- Exposes sensitive receptors to substantial pollutant concentrations.
- Creates objectionable odors that affect a substantial number of people.

The SJVAPCD GAMAQI thresholds are designed to implement the general criteria for air quality emissions as required in the CEQA Guidelines, Appendix G, Paragraph III (Title 14 of the California Code of Regulations §15064.7) and CEQA (California Public Resources Code Sections 21000 et al.). SJVAPCD's specific CEQA air quality thresholds are presented in Table 4-1.

Table 4-1
SJVAPCD CEQA Thresholds of Significance

Criteria Pollutant	Construction Emissions	Operational Emissions	
		Permitted Equipment and Activities	Non-Permitted Equipment and Activities
NOx	10 tons/yr	10 tons/yr	10 tons/yr
ROG	10 tons/yr	10 tons/yr	10 tons/yr
SOx	27 tons/yr	27 tons/yr	27 tons/yr
PM_{10}	15 tons/yr	15 tons/yr	15 tons/yr
$PM_{2.5}$	15 tons/yr	15 tons/yr	15 tons/yr
CO	100 tons/yr	100 tons/yr	100 tons/yr

Source: SJVAPCD, 2015.

4.1.2 - THRESHOLD FOR AMBIENT AIR QUALITY IMPACTS

CEQA Guidelines – Appendix G (Environmental Checklist) states that a project that would "*violate any air quality standard or contribute substantially to an existing or projected air quality violation*" would be considered to create significant impacts on air quality. Therefore, an AQIA should determine whether the emissions from a project would cause or contribute significantly to violations of the NAAQS or CAAQS (presented above in Table 3-1) when added to existing ambient concentrations.

The EPA has established the federal Prevention of Significant Deterioration (PSD) program to determine what comprises "significant impact levels" (SIL) to NAAQS attainment areas. A project's impacts are considered less than significant if emissions are below PSD SIL for a particular pollutant. When a SIL is exceeded, an additional "increment analysis" is required. As the Project would not include modification to the stationary source under New Source Review (NSR), it would not be subject to either PSD or NSR review. The PSD SIL thresholds are used with ambient air quality modeling for a CEQA project to address whether the project would "*violate any air quality standard or contribute substantially to an existing or projected air quality violation*." Ambient air quality emissions estimates below the PSD SIL thresholds would result in less-than-significant ambient air quality impacts on both a project and cumulative CEQA impact analysis. The SJVAB is classified as non-attainment/marginal for the 8-hour O_3 NAAQS and, as such, is subject to non-attainment NSR. PSD SILs and increments are more stringent than the CAAQS or NAAQS and represent the most stringent thresholds of significance.

4.1.3 - THRESHOLDS FOR HAZARDOUS AIR POLLUTANTS

The SJVAPCD's GAMAQI states, "From a health risk perspective, there are basically two types of land use projects that have the potential to cause long-term public health risk impacts:

- Type A Projects: Land use projects that will place new toxic sources in the vicinity of existing receptors.

- Type B Projects: Land use projects that will place new receptors in the vicinity of existing toxic sources" (SJVAPCD, 2015).

Table 4-2 presents the thresholds of significance used with toxic air contaminants when evaluating hazardous air pollutants (HAPs).

Table 4-2
Measures of Significance – Toxic Air Contaminants

Agency	Level	Description
Significance Thresholds Adopted for the Evaluation of Impacts Under CEQA		
SJVAPCD	Carcinogens	Maximally Exposed Individual risk **equals or exceeds** 20 in one million.
	Non-Carcinogens	**Acute**: Hazard Index **equals or exceeds** 1.0 for the Maximally Exposed Individual. **Chronic**: Hazard Index **equals or exceeds** 1.0 for the Maximally Exposed Individual.

Source: EKAPCD, 1996

4.1.4 - GLOBAL CLIMATE CHANGE THRESHOLDS OF SIGNIFICANCE

On December 17, 2009, SJVAPCD adopted Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA (SJVAPCD, 2009); which outlined the SJVAPCD's methodology for assessing a project's significance for GHGs under CEQA. The following criteria were outlined in the document to determine whether a project could have a significant impact:

- Projects determined to be exempt from the requirements of CEQA would be determined to have a less-than-significant individual and cumulative impact for GHG emissions and would not require further environmental review, including analysis of project-specific GHG emissions. Projects exempt under CEQA would be evaluated consistent with established rules and regulations governing project approval and would not be required to implement BPS.
- Projects complying with an approved GHG emission reduction plan or GHG mitigation program that avoids or substantially reduces GHG emissions within the geographic area in which the project is located would be determined to have a less-than-significant individual and cumulative impact for GHG emissions. Such plans or programs must be specified in law or approved by the lead agency with jurisdiction over the affected resource and supported by a CEQA-compliant environmental review document adopted by the lead agency. Projects complying with an approved GHG emission reduction plan or GHG mitigation program would not be required to implement BPS.
- Projects implementing Best Performance Standards would not require quantification of project-specific GHG emissions. Consistent with CEQA Guidelines, such projects would be determined to have a less-than-significant individual and cumulative impact for GHG emissions.

- Projects not implementing Best Performance Standards would require quantification of project-specific GHG emissions and demonstration that project-specific GHG emissions would be reduced or mitigated by at least 29 percent, compared to business as usual (BAU), including GHG emission reductions achieved since the 2002-2004 baseline period. Projects achieving at least a 29 percent GHG emission reduction compared to BAU would be determined to have a less-than-significant individual and cumulative impact for GHG.
- Notwithstanding any of the above provisions, projects requiring the preparation of an Environmental Impact Report for any other reason would require quantification of project-specific GHG emissions. Projects implementing BPS or achieving at least a 29 percent GHG emission reduction compared to BAU would be determined to have a less-than-significant individual and cumulative impact for GHG.

The SJVAPCD, a CEQA Trustee Agency for this Project, has developed thresholds to determine the significance of a proposed project – either implement Best Performance Standards or achieve a 29 percent reduction from BAU (a specific numerical threshold). However, the SJVAPCD has established their BAU and baseline emissions based on the years 2002-2004 and 2020, respectively. The 2020 projected baseline has passed, and at this time, no new guidance has been approved for determining BAU and projected baseline for the next target year. Therefore, the 29 percent reduction from BAU cannot be applied to the subject Project in order to determine significance. Additionally, a Best Performance Standards threshold has not been established. For this Project, compliance with locally adopted climate plans will be used to determine the level of significance for GHG. Therefore, the GHG analysis for this Project follows the suggestions from the Court's ruling on the Newhall Ranch development project in order to determine the significance of using the project design features.

4.2 - Project Related Emissions

This document was prepared pursuant to the SJVAPCD's GAMAQI. The GAMAQI identifies separate thresholds for a project's short-term (construction) and long-term (operational) emissions.

Project emissions were estimated separately for each emission source. The California Emissions Estimator Model (CalEEMod) was used to estimate emissions for both short-term, construction-related sources and long-term, operations-related sources.

Project emissions were estimated for the following development stages:

- Short-term (Construction and Demolition) – Construction emissions of the proposed Project were estimated in CalEEMod using the default construction schedule and construction equipment for the development based on the 24-month estimated timeline. (See Appendix A.)
- Long-term (Operations) – Long-term emissions were also estimated in CalEEMod using model defaults for operations of the aforementioned land use types. (See Appendix A.)

4.2.1 - SHORT-TERM EMISSIONS

Short-term emissions from the construction phases of a project would have temporary impacts on air quality.

The construction emissions were based on the default CalEEMod equipment list for the proposed Project's land use type and development intensity and applying model defaults as well as a conservative analysis approach. In order to be conservative construction emissions were estimated under the assumption that construction would begin in 2026. The dates entered into the CalEEMod program represent the earliest construction timeline, which would estimate the worst-case emissions as construction equipment technology and emissions improve over time; therefore, all estimated emission totals are conservative and reflect a reasonable and legally sufficient estimate of potential impacts. All construction equipment activity levels assumed were based on CalEEMod default values for type, number of equipment, hours per day and horsepower.

Adjustments to the CalEEMod default values were as follows:

- Land use lot acreage was adjusted to match the Project description.
- Demolition construction phase was removed as the Project Location is open land.
- Total construction period was changed to 24 months.

SJVAPCD's required measures for all projects were also applied:

- Water exposed area three times per day.
- Reduce vehicle speed to less than 15 miles per hour on unpaved roads.

Table 4-3 presents the Project's short-term emissions based on the anticipated construction period.

As calculated with CalEEMod, the estimated short-term construction-related emissions would not exceed SJVAPCD significance threshold levels during any given year and would, therefore, be *less than significant*.

Table 4-3
Short-Term Project Emissions

Emissions Source	Pollutant (tons/year)					
	ROG	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
Construction - 2026	0.375	2.127	3.577	0.005	0.412	0.168
Construction – 2027	3.310	1.373	2.809	0.004	0.290	0.098
Significance Threshold	10	10	100	27	15	15
Is Threshold Exceeded for a Single Year After Mitigation?	No	No	No	No	No	No

Source: QK 2025

4.2.2 - LONG-TERM OPERATIONAL EMISSIONS

Long-term emissions are caused by operational mobile sources and area source emissions from the on-site building.

Fugitive Dust Emissions

Operation of the Project site at full build-out is not expected to present a substantial source of fugitive dust (PM_{10}) emissions. The main source of PM_{10} emissions would be from vehicular traffic associated with the Project site.

PM_{10}, on its own as well as in combination with other pollutants, creates a health hazard. SJVAPCD's Regulation VIII establishes required controls to reduce and minimize fugitive dust emissions. The following SJVAPCD Rules and Regulations apply to the proposed Project (and all projects):

- Rule 4102 – Nuisance – prohibits a facility from posing as a nuisance to surrounding receptors and can impose penalties for nuisance issues such as dust, smoke, excess emissions, etc. Compliance with this rule ensures that the area around the Project site will not be adversely impacted by such issues.
- Regulation VIII – Fugitive PM_{10} Prohibitions – a series of regulations to reduce and/or eliminate the generation of particulate matter (PM) that can adversely impact visibility as well as the health and safety of people on-site or in the vicinity of the Project.
    - Rule 8011 – General Requirements – this rule is to reduce ambient concentrations of fine particulate matter (PM_{10}) by requiring actions to prevent, reduce, or mitigate anthropogenic (human-caused) fugitive dust emissions.
    - Rule 8021 – Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities – restricts generation of airborne dust and visibility impacts from these activities. Places limits on opacity and equipment operation under certain adverse weather conditions.
    - Rule 8041 – Carryout and Trackout – requires that equipment and vehicles leaving the construction site control the amount of dirt, soil, or mud that is

tracked offsite and onto public roadways. This helps eliminate or minimize dust generation and opacity degradation.

- Rule 8051 – Open Areas – limits fugitive dust from open areas, i.e., areas on a construction site that are not actively being constructed upon but may generate wind-blown dust.

The Project would comply with applicable SJVAPCD Rules and Regulations, the local zoning codes, and additional emissions reduction measures recommended later in this analysis, in Section 7, Mitigation and Other Recommended Measures.

Exhaust Emissions

Project-related transportation activities from residents would generate mobile source ROG, NOx, SOx, CO, PM_{10}, and $PM_{2.5}$ exhaust emissions. Exhaust emissions would vary substantially from day to day but would average out over the course of an operational year. The variables factored into estimating total Project emissions include level of activity, site characteristics, weather conditions, and number of visitors. As the Project is not expected to generate an adverse change in current activity levels, substantial emissions are not anticipated. The default trip rates in CalEEMod were used along with an adjusted fleet mix to reflect SJVAPCD approved residential fleet mix for year 2026.

Projected Emissions

The proposed Project is expected to have long-term air quality impacts as shown in Table 4-4. Emission calculations are available in Appendix A.

Table 4-4
Post-Project Max Year (Operational Emissions)

Emissions Source	Pollutant (tons/year)					
	ROG	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
Operational Emissions	7.55	3.26	23.77	0.05	3.85	1.05
SJVAPCD Threshold	10	10	100	27	15	15
Is Threshold Exceeded After Mitigation?	No	No	No	No	No	No

As shown in Table 4-4, operations-related emissions, as calculated in Appendix A, would not exceed the SJVAPCD significant threshold levels. Therefore, the Project is less-than-significant for operational emissions.

4.3 - Potential Impacts on Sensitive Receptors

Sensitive receptors are defined as locations where young children, chronically ill individuals, the elderly, or people who are more sensitive than the general population reside, such as schools, hospitals, nursing homes, and daycare centers. The nearest residential sensitive receptor to the proposed Project is located adjacent to portions of the Project's sites. Table

4-5 lists the known non-residential sensitive receptors within one mile of the Project site. Discussion of health risks and risks to sensitive receptors is addressed in detail below in Section 4.6.

Table 4-5
Sensitive Receptors Located < 1 miles from Project

Receptor	Type of Facility	Distance from Project (miles)	Direction from Project
Blue Oak Academy	School	0.71	E
Annie R Mitchell Elementary School	School	0.46	NW
Janet's Day Care Visalia	Daycare	0.27	W
Little Rainbows Daycare	Daycare	0.36	W

4.4 - Potential Impacts to Visibility to Nearby Class 1 Areas

Visibility impact analyses are intended for stationary sources of emissions which are subject to the PSD requirements in 40 CFR Part 60; they are not usually conducted for area sources. Under the PSD program, all international parks, national wilderness areas and national memorial parks that exceed 5,000 acres, and of national parks that exceed 6,000 acres are designated as mandatory federal Class I areas which are provided visibility protection under the Clean Air Act. Because the Project's PM10 emissions increases are predicted to be less than the PSD threshold levels, an impact at any Class 1 area or military/airspace operation within 100 kilometers of the Project is extremely unlikely. Therefore, based on the Project's predicted less-than significant PM10 emissions, the Project would be expected to have a *less than significant impact* to visibility at any Class 1 area or military/airspace operation.

4.5 - Potential Impacts from Carbon Monoxide

Ambient CO concentrations normally correspond closely to the spatial and temporal distributions of vehicular traffic. Relatively high concentrations of CO would be expected along heavily traveled roads and near busy intersections. CO concentrations are also influenced by wind speed and atmospheric mixing. CO concentrations may be more uniformly distributed when inversion conditions are prevalent in the valley. Under certain meteorological conditions, CO concentrations along a congested roadway or intersection may reach unhealthful levels for sensitive receptors, e.g., children, the elderly, hospital patients, etc. This localized impact can result in elevated levels of CO, or "hotspots," even though concentrations at the closest air quality monitoring station may be below NAAQS and CAAQS.

The localized project impacts depend on whether ambient CO levels in the Project vicinity would be above or below NAAQS. If ambient levels are below the standards, a project is considered to have significant impacts if a project's emissions would exceed one or more of these standards. If ambient levels already exceed a State standard, a project's emissions are considered significant if they would increase 1-hour CO concentrations by 10 ppm or more

or 8-hour CO concentrations by 0.45 ppm or more. There are two criteria established by the SJVAPCD's GAMAQI by which CO "hotspot" modeling is required:

1. A traffic study for the project indicates that the Level of Service (LOS) on one or more streets or at one or more intersections in the project vicinity would be reduced to LOS E or F.
2. A traffic study indicates that the project would substantially worsen an already existing LOS F on one or more streets or at one or more intersections in the project vicinity.

Based on the size and location of the Project, the impacted intersections and roadway segments are anticipated to operate at a LOS of C or better. Therefore, CO "hotspot" modeling was not conducted for this Project, and no concentrated excessive CO emissions are expected to be caused once the proposed Project is completed. If a subsequent traffic study indicates LOS D or worse, a hotspot analysis will be conducted.

4.6 - Predicted Health Impacts

GAMAQI recommends that Lead Agencies consider situations wherein a new or modified source of HAPs is proposed for a location near an existing residential area or other sensitive receptors when evaluating potential impacts related to HAPs.

The proposed Project would result in emissions of HAPs from construction activities and would be located near existing residents; therefore, an assessment of the potential risk to the population attributable to emissions of hazardous air pollutants from the proposed Project is required.

To predict the potential health risk to the population attributable to emissions of HAPs from the proposed Project, ambient air concentrations were predicted with dispersion modeling to arrive at a conservative estimate of increased individual carcinogenic risk that might occur as a result of continuous exposure over the construction period for construction emissions. Similarly, predicted concentrations were used to calculate non-cancer chronic and acute hazard indices, which are the ratio of expected exposure to acceptable exposure. The basis for evaluating potential health risks is the identification of sources with increased HAPs. HAP emissions from anticipated on-site construction activities were evaluated.

Health risk is determined using the Hotspots Analysis and Reporting Program (HARP) software distributed by the CARB. HARP2 requires peak 1-hour emission rates and annual-averaged emission rates for all pollutants for each modeling source. The assumptions used to calculate the emission rates for the proposed Project are outlined below.

The most recent version of EPA's AMS/EPA Regulatory Model – AERMOD (recompiled for the Lakes ISC-AERMOD View) was used to predict the dispersion of emissions from the proposed Project. The analysis employed all of the regulatory default AERMOD model keyword parameters, including elevated terrain options.

Diesel combustion emissions from diesel on-site construction equipment were modeled as an area source for on-site construction activity on the property. Diesel particulate matter was calculated using CalEEMod for on-site construction. A unit emission rate of one gram/second (g/sec) was input to AERMOD for each source.

A fenceline discrete receptor grid was placed around the Project site in order to evaluate residences and businesses within close proximity of the Project site. A three-tier grid was used with 25-meter fenceline spacing. The first tier extended 100 meters with 25-meter tier spacing, the second tier extended an additional 200 meters with 50-meter tier spacing and the third tier extended another 400 meters with a tier spacing of 100 meters. A total of 1,925 discrete off-site receptors were analyzed. Elevated terrain options were employed even though there is not complex terrain in the Project area. The 7.5-minute DEM terrain data for Exeter and Visalia, CA was processed with AERMAP to identify elevations for the proposed Project.

SJVAPCD-provided AERMET processed meteorological datasets for the Visalia monitoring station, calendar years 2007 through 2010 were input to AERMOD (SJVAPCD, 2025d). This was the most recent available dataset available at the time the modeling was conducted. Rural dispersion parameters were used because the operation and the majority of the land surrounding the facility are considered "rural" under the Auer land use classification method (Auer, 1978).

Plot files generated by AERMOD were uploaded to the Air Dispersion Modeling and Risk Assessment Tool (ADMRT) program in the Hotspots Analysis and Reporting Program Version 2 (HARP2) (CARB, 2015). ADMRT post-processing was used to assess the potential for excess cancer risk and chronic and acute non-cancer effects using the most recent health effects data from the California EPA Office of Environmental Health Hazard Assessment (OEHHA) using the OEHHA Derived Method. HARP2 site parameters were set for the mandatory minimum pathways of inhalation, homegrown gardens, soil ingestion, dermal, and mother's milk. The non-inhalation pathways used a deposition rate of 0.02 m/s along with all other default parameters. Risk reports were generated using the derived OEHHA analysis method for carcinogenic risk and non-carcinogenic chronic and acute risk. Site parameters are included in the HARP2 output files. Total cancer risk was predicted for the inhalation pathway at each receptor. A hazard index was computed for chronic non-cancer health effects for each applicable endpoint and each receptor. A hazard index for acute non-cancer health effects was not computed since DPM does not have a risk exposure level for acute risk.

SJVAPCD has set the level of significance for carcinogenic risk at twenty in one million, which is understood as the possibility of causing 20 additional cancer cases in a population of one million people. The level of significance for chronic non-cancer risk is a hazard index of 1.0. All receptors were modeled with a 2-year exposure for construction activities.

The carcinogenic risk and the health hazard index (HI) for chronic non-cancer risk at the point of maximum impact (PMI) do not exceed the significance levels of 20 in one million (20 x 10-6) and 1.0, respectively, for the proposed Project. The PMIs are identified by receptor

location and risk and are provided in Table 4-6. The electronic AERMOD and HARP2 output files are provided in Appendix B.

Table 4-6
Potential Maximum Impacts Predicted by HARP

	Cancer Risk	Chronic Hazard Index
Construction	4.12E-06	2.41E-03
SJVAPCD Threshold	20.0E-06	1.0
Exceedance?	No	No
Receptor #	1479	1479
UTM Easting (m)	297503.33	297503.33
UTM Northing (m)	4019827.45	4019827.45

Note: UTM = Universal Transverse Mercator

As shown above in Table 4-6, the maximum predicted cancer risk for the proposed Project is 4.12E-06. The maximum chronic non-cancer hazard index for the proposed Project is 2.41E-03. Since the PMI remained below the significance threshold for cancer and chronic risk, this Project would not have an adverse effect to any of the surrounding communities.

The potential health risk attributable to the proposed Project is determined to be *less than significant* based on the following conclusions:

1. Potential carcinogenic risk from the proposed Project is below the significance level of twenty in a million at each of the modeled receptors.
2. The hazard index for the potential chronic non-cancer risk from the proposed Project is below the significance level of 1.0 at each of the modeled receptors.
3. The hazard index for the potential acute non-cancer risk was not calculated since there is no acute risk associated with DPM emission; therefore, the proposed Project is considered below the significance level.

Therefore, potential risk to the population attributable to emissions of HAPs from the proposed Project would be less than significant.

4.7 - Potential Impacts from Valley Fever

The proposed project has the potential to generate fugitive dust and suspend Valley Fever spores with the dust that could then reach nearby sensitive receptors. It is possible that onsite workers could be exposed to Valley Fever spores as fugitive dust is generated during construction. In order to mitigate potential risk, the proposed Project would provide training and personal protective respiratory equipment to construction workers and provide information to all construction personnel and visitors about Valley Fever. Therefore, the exposure to Valley Fever would be minimized. With the implementation of the mitigation measures, dust from the construction of the proposed project would not add significantly to

the existing exposure level of people to this fungus, including construction workers, and impacts would be reduced to less-than-significant levels.

4.8 - Potential Impacts from Asbestos

Naturally occurring asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects, and other improvement projects in some localities. Asbestos may be released into the atmosphere due to vehicular traffic on unpaved roads, during the grading of development projects, and at mining operations.

Serpentinite and/or ultramafic rocks are known to be present in 44 of California's 58 counties. These rocks are particularly abundant in the counties associated with the Sierra Nevada foothills, the Klamath Mountains, and the Coast Ranges. However, according to information provided by the Department of Conservation Division of Mines and Geology, the project site is not located in an area where naturally occurring asbestos is likely to be present (CDCDMG, 2000). Therefore, impacts associated with the exposure of construction workers and nearby sensitive receptors to asbestos would be less than significant.

4.9 - Odor Impacts and Mitigation

The SJVAPCD's GAMAQI states, "An analysis of potential odor impacts should be conducted for both of the following two situations:

1. Generators – projects that would potentially generate odorous emissions proposed to locate near existing sensitive receptors or other land uses where people may congregate.
2. Receivers – residential or other sensitive receptor projects or other projects built for the intent of attracting people locating near existing odor sources" (SJVAPCD, 2015).

The GAMAQI also states, "The District has identified some common types of facilities that have been known to produce odors in the San Joaquin Valley Air Basin. These are presented in Table 6 (Screening Levels for Potential Odor Sources), along with a reasonable distance from the source within which the degree of odors could possibly be significant. [Table 6] can be used as a screening tool to qualitatively assess a project's potential to adversely affect area receptors" (SJVAPCD, 2015). Because the Project's anticipated land uses and activities are not listed in Table 6 of the GAMAQI as a source that would create objectionable odors, the Project is not expected to be a source of objectionable odors.

Based on the provisions of the SJVAPCD's GAMAQI, the proposed Project would not exceed any screening trigger levels to be considered a source of objectionable odors or odorous compounds (SJVAPCD, 2015). Furthermore, there does not appear to be any significant source of objectionable odors in close proximity that may adversely impact the Project site when it is in operation. Additionally, the Project emissions estimates indicate that it would not be expected to adversely impact surrounding receptors. As such, the proposed Project

would not be a source of any odorous compounds, nor would it likely be impacted by any odorous source.

4.10 - Impacts to Ambient Air Quality

An ambient air quality analysis was performed to determine if the proposed Project has the potential to impact ambient air quality through a violation of the ambient air quality standards or a substantial contribution to an existing or projected air quality standard. The basis for the analysis is dispersion modeling and the Project's long-term air quality impacts shown in **Table 4-4**.

The maximum off-site ground level concentration of each pollutant for the 1-hour, 3-hour, 8-hour, 24-hour and annual periods was predicted using the most recent version of EPA's AMS/EPA Regulatory Model (AERMOD) dispersion software under the Lakes Environmental ISC-AERMOD View interface. SJVAPCD-approved, Visalia meteorological datasets for calendar years 2007 through 2010 was input to AERMOD (SJVAPCD 2025d). This was the most recent available dataset available at the time the modeling runs were conducted. All of the regulatory default AERMOD model keyword parameters were employed. Rural dispersion parameters were used for this project, which differs from the urban setting used in the CalEEMod model. The CalEEMod selection criteria is based on trip distances to the project site while the AERMOD selection criteria is based on the majority of the land use surrounding the facility. The majority of the land surrounding the project site is considered "rural" under the Auer land use classification method (Auer 1978).

Emissions were evaluated for each pollutant on a short-term (correlating to pollutant averaging period) and long-term (annual) basis, with the exception of CO that was evaluated only for short-term exposures since there are no long term significance thresholds for CO.

The majority of mobile emissions predicted by CalEEMod will occur beyond the project boundary because of vehicle trips. In order to determine the on-site vehicle emissions an estimated on-site trip distance was determined to be 0.28 miles. The on-site estimated trip distance was then divided by the average trip length used in CalEEMod, 5.43 miles, in order to determine the on-site to off-site mobile emissions ratio, 5.15%. The total mobile emissions calculated by CalEEMod for the Project were then reduced by 94.85% to estimate the mobile on-site emissions used for ambient air quality modeling.

A fenceline discrete receptor grid was placed around the Project site in order to evaluate residences and businesses within close proximity of the Project site. A three-tier grid was used with 25-meter fenceline spacing. The first tier extended 100 meters with 25-meter tier spacing, the second tier extended an additional 200 meters with 50-meter tier spacing and the third tier extended another 400 meters with a tier spacing of 100 meters. A total of 1,925 discrete off-site receptors were analyzed. Elevated terrain options were employed even though there is not complex terrain in the Project area. The 7.5-minute DEM terrain data for Clovis, CA, was processed with AERMAP to identify elevations for the proposed Project.

For each pollutant and averaging period modeled, a "total" concentration was estimated by adding the maximum measured background air concentration to the maximum predicted Project impacts. The maximum measured background air concentrations used in this analysis were calculated from measured concentrations at the nearest monitoring stations.

The results of the air dispersion modeling, presented in **Table 4-7**, demonstrate that the maximum impacts attributable to the Project, when considered in addition to the existing background concentrations, are below the applicable ambient air quality standard for NO_x, SO_x and CO. The electronic AERMOD output files are provided in Appendix C.

Table 4-7
Predicted Ambient Air Quality Impacts

Pollutant	Averaging Period	Background ($\mu g/m^3$)	Project ($\mu g/m^3$)	Project + Background ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)	CAAQS ($\mu g/m^3$)
NO_2	1-Hour	115.7	6.39	122.09	188.68	338
NO_2	Annual	13.6	0.72	14.32	100	56
SO_2	1-Hour	28.0	0.05	28.05	196	655
SO_2	3-Hour	18.2	0.04	18.24	1,300	---
SO_2	24-Hour	5.8	0.02	5.82	365	105
CO	1-Hour	2,061	31.8	2,093	40,000	23,000
CO	8-Hour	1,718	22.3	1,740	10,000	10,000
PM_{10}	24-Hour	172	0.73	172.7	150	50
PM_{10}	Annual	25.8	0.19	25.99	---	20
$PM_{2.5}$	24-Hour	64.7	0.33	65.03	35	---
$PM_{2.5}$	Annual	12.9	0.09	12.99	12	12

Pre-Project concentrations of PM_{10} and $PM_{2.5}$ exceed their respective ambient air quality standards. PM_{10} and $PM_{2.5}$ are evaluated in accordance with the SJVAPCD recommended significant impact level (SIL) for fugitive PM_{10} and $PM_{2.5}$ emissions. It is the SJVAPCD's policy to use significant impact levels to determine whether a proposed new or modified source will cause or contribute significantly to an AAQS violation. If a project's maximum impacts are below the District SIL, the project is judged to not cause or contribute significantly to an AAQS or PSD increment violation. A comparison of the proposed impact from the Project to the District SIL values is provided in **Table 4-8.**

Table 4-8
Comparison of Maximum Modeled Project Impact with Significant Thresholds

Pollutant	Averaging Period	Predicted Concentration ($\mu g/m^3$)	SIL ($\mu g/m^3$)
PM_{10}	24-Hour	0.73	10.4
PM_{10}	Annual	0.19	2.08
$PM_{2.5}$	24-Hour	0.33	2.5
$PM_{2.5}$	Annual	0.09	0.63

Because the Project's modelled PM_{10} and $PM_{2.5}$ are below the SJVAPCD's significance levels for 24-hour and annual concentrations, the Project's contribution to potential violations of ambient air quality standards would be l*ess-than-significant*.

4.11 - Impacts to Greenhouse Gases and Climate Change

The proposed Project's construction and operational GHG emissions were estimated using the CalEEMod. The Project's GHG emissions are primarily from mobile source activities. Not all GHGs exhibit the same ability to induce climate change; as a result, GHG contributions are commonly quantified as CO_2e. Table 4-6 presents the Project's annual GHG emissions.

Table 4-9
Estimated Annual GHG Emissions (MT/Year)

Source	CO_2e
Total Construction Emissions	1,297
Annualized Construction Emissions[1]	43
Total Operational Emissions	5,757
Total Project Emissions	**5,800**

1 Per South Coast AQMD's Methodology

In the decade after SJVAPCD adopted their Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA, several new laws and executive orders were adopted that require additional reductions in years after 2020. For instance, Senate Bill 32 requires that GHG emissions be 40 percent less than 1990 levels by 2030. More drastic still, Senate Bill 100, which was signed by the Governor recently, requires 100 percent zero-carbon electricity by 2045. On the day SB 100 was signed into law, the Governor also signed Executive Order B-55-18, which commits California to total, economy-wide carbon neutrality by 2045. Clearly, the 2009 Guidance may be somewhat inadequate in producing a meaningful comparison by today's standards, which propose a grand vision that, if achieved, would fundamentally change how business is conducted and citizens live in the State. Thus, as discussed in the most recent updates to the Scoping Plan, the objectives of the Scoping Plan affect entire sectors of the economy, and it no longer makes sense to evaluate GHG emissions on a project level.

For these reasons, Project GHG emissions levels presented in Table 4-6 are primarily for disclosure purposes. The Project's largest contributors to GHG emissions are from electricity and exhaust from transportation fuels. Electricity and transportation fuels are, in effect, regulated by requiring providers and importers of electricity and fuel to participate in the GHG Cap-and-Trade Program and other programs (e.g., low carbon fuel standard, renewable portfolio standard, etc.). Each such sector-wide program exists within the framework of AB 32 and its descendant laws, the purpose of which is to achieve GHG emissions reductions consistent with the AB 32 Scoping Plan.

The Project would generate GHGs from electricity use and combustion of gasoline/diesel fuels, each of which is regulated near the top of the supply chain. As such, each citizen of

California (including those creating emissions of this Project) will have no choice but to purchase electricity and fuels produced in a way that is acceptable to the California market. Thus, Project GHG emissions will be consistent with the relevant plan (i.e., AB 32 Scoping Plan). The Project would meet its fair share of the cost to mitigate the cumulative impact of global climate change because energy purchases are from the California market. Thus, consumers of electricity and transportation fuels are, in effect, regulated by higher-level emissions restrictions on the producers of these energy sources. Therefore, the Project would have a less-than-significant impact on applicable GHG reduction plans and the Project's contribution to cumulative global climate change impacts would not be cumulatively considerable.

SECTION 5 - CUMULATIVE IMPACTS

By its very nature, air pollution has a cumulative impact. The District's non-attainment status is a result of past and present development within the SJVAB. Furthermore, attainment of ambient air quality standards can be jeopardized by increasing emissions-generating activities in the region. No single project would be sufficient in size by itself to result in non-attainment of the regional air quality standards. Instead, a project's emissions may be individually limited, but cumulatively considerable when taken in combination with past, present, and future development within the San Joaquin Valley Air Basin. When assessing whether there is a new significant cumulative effect, the Lead Agency shall consider whether the incremental effects of the project are cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects [CCR §15064(h)(1)]. Per CEQA Guidelines §15064(h)(3), a Lead Agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program, including, but not limited to an air quality attainment or maintenance plan that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located (SJVAPCD, 2015).

GAMAQI also states, "If a project is significant based on the thresholds of significance for criteria pollutants, then it is also cumulatively significant. This does not imply that if the project is below all such significance thresholds, it cannot be cumulatively significant." (SJVAPCD, 2015). Based on the analysis conducted for this Project, it is individually less than significant. This AQIA, however, also considered the impacts of the proposed Project in conjunction with the impacts of other projects previously proposed in the area. The following cumulative impacts were considered:

- Cumulative O_3 Impacts (ROG and NOx) from numerous sources within the region, including transport from outside the region. O_3 is formed through chemical reactions of ROG and NOx in the presence of sunlight.
- Cumulative CO Impacts produced primarily by vehicular emissions.
- Cumulative PM_{10} Impacts from within the region and locally from the various projects. Such projects may cumulatively produce a significant amount of PM10 if several projects conduct grading or earthmoving activities at the same time; and
- Hazardous Air Pollutant (HAP) Impacts on sensitive receptors.

5.1 - Cumulative Regional Air Quality Impacts

The most recent, certified SJVAB Emission Inventory data available from the SJVAPCD is based on data gathered for the 2024 annual inventory. This data will be used to assist the SJVAPCD in demonstrating attainment of Federal 1-hour O_3 Standards. Table 5-1 provides a comparative look at the impacts proposed by the proposed Project to the SJVAB Emissions Inventory.

Table 5-1
Comparative Analysis Based on SJVAB 2024 Inventory

Emissions Inventory Source	Pollutant (tons/year)					
	ROG	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
Tulare County – 2024[2]	21,278.0	11,079.9	34,903.5	509.5	13,964.5	3,934.0
SJVAB – 2024[2]	108,775.1	51,926.7	215,561.3	2,265.2	97,564.5	23,861.1
Proposed Project	7.55	3.26	23.77	0.05	3.85	1.05
Proposed Project's % of Tulare[1]	0.0352%	0.0292%	0.0676%	0.0079%	0.0274%	0.0264%
Proposed Project's % of SJVAB[1]	0.0069%	0.0062%	0.0109%	0.0018%	0.0039%	0.0044%

Source: CARB, 2025
Notes: 1) Percentages equaling 0.0000 could represent a percent <0.00005.
2) This is the latest inventory available as of June 2025, excluding Natural Sources.

As shown in Table 5-1 the proposed Project does not pose a substantial increase to basin emissions, as such basin emissions would be essentially the same if the Project is approved.

Table 5-2, Table 5-3, and Table 5-4 provide CARB Emissions Inventory projections for the year 2030 for both the SJVAB and the Tulare County portion of the air basin. Looking at the SJVAB Emissions predicted by the CARB year 2030 emissions inventory, the Tulare County portion of the air basin is a moderate source of the emissions. The proposed Project produces a small portion of the total emissions in both Tulare County and the entire SJVAB.

Table 5-2
Emission Inventory SJVAB 2030 Projection – Tons per Year

	ROG	NO_X	CO	SOx	PM_{10}	$PM_{2.5}$
Total Emissions	104,380.5	38,036.3	168,950.5	2,208.6	99,271.2	21,758.7
Percent Stationary Sources	29.98%	15.51%	4.43%	78.83%	4.30%	11.34%
Percent Area-Wide Sources	55.76%	6.01%	27.47%	8.59%	91.44%	76.99%
Percent Mobile Sources	14.26%	78.48%	74.09%	12.58%	4.26%	11.66%
Total Stationary Source Emissions	31,297.7	5,897.7	7,489.8	1,741.1	4,266.9	2,468.5
Total Area-Wide Source Emissions	58,202.9	2,285.6	36,279.9	189.8	90,775.5	16,752.8
Total Mobile Source Emissions	14,880.3	29,852.6	125,181.1	277.8	4,228.9	2,537.5

Source: CARB, 2025
Note: Total may not add due to rounding.

Table 5-3
Emission Inventory Tulare County 2030 Projection – Tons per Year

	ROG	NO_X	CO	SOx	PM_{10}	$PM_{2.5}$
Total Emissions	20,325.0	8,346.1	27,851.3	449.0	14,756.6	3,626.6
Percent Stationary Sources	49.84%	22.40%	9.84%	84.63%	8.55%	27.48%
Percent Area-Wide Sources	37.01%	4.55%	7.28%	3.58%	86.17%	61.36%
Percent Mobile Sources	13.15%	73.04%	82.88%	11.79%	5.28%	11.16%
Total Stationary Source Emissions	10,129.5	1,869.9	2,739.7	380.0	1,261.8	996.5
Total Area-Wide Source Emissions	7,522.7	380.0	2,028.3	16.1	12,715.1	2,225.4
Total Mobile Source Emissions	2,672.9	6,096.2	23,083.7	52.9	779.6	404.8

Source: CARB, 2025
Note: Total may not add due to rounding.

Table 5-4
2030 Emissions Projections – Proposed Project, Tulare County and SJVAB

	ROG	NO_X	PM_{10}
Proposed Project	7.55	3.26	3.85
Tulare County	20,325.0	8,346.1	14,756.6
SJVAB	104,380.5	38,036.3	99,271.2
Proposed Project Percent of Tulare County	0.037%	0.039%	0.026%
Proposed Project Percent of SJVAB	0.007%	0.009%	0.004%
Tulare County Percent of SJVAB	19.47%	21.94%	14.86%

As shown above, the proposed Project would pose an inconsequential impact on regional O_3 and PM_{10} formation. Therefore, this Project would not be considered cumulatively considerable in its contribution to regional O_3 and PM_{10} impacts.

5.2 - Cumulative Local Air Quality Impacts

SJVAPCD uses a single threshold for the determination of significance for both project-specific and cumulative impacts. Air quality in SJVAB has improved over the past decades, as shown in Section 3.3, which indicates that the single threshold is sufficient for assessing cumulative impacts. The proposed Project would generate less-than-significant impacts to criteria air pollutants; therefore, the Project's incremental contribution to cumulative air quality impacts would not be cumulatively considerable (CEQA Guidelines Section 15064(h)(3); (SJVAPCD, 2015).

5.3 - Cumulative Hazardous Air Pollutants

The GAMAQI also states that when evaluating potential impacts related to HAPs, "*impacts of local pollutants (CO, HAPs) are cumulatively significant when modeling shows that the combined emissions from the project and other existing and planned projects will exceed air quality standards*." Because the Project would not be a significant source of HAPs, the proposed Project would also *not be expected to pose a significant cumulative CO or HAPs impact*.

5.4 - Cumulative Carbon Monoxide (CO) – Mobile Sources

The SJVAPCD's GAMAQI has identified CO impacts from impacted traffic intersections and roadway segments as being potentially cumulatively considerable. Traffic increases and added congestion caused by a project can combine to cause a violation of the SJVAPCD's CO standard, also known as a "hotspot." There are two criteria established by the GAMAQI by which CO "hotspot" modeling is required:

1. A traffic study for the project indicates that the Level of Service (LOS) on one or more streets or at one or more intersections in the project vicinity would be reduced to LOS E or F.

2. A traffic study indicates that the project would substantially worsen an already existing LOS F on one or more streets or at one or more intersections in the project vicinity.

Based on the size and location of the Project, the impacted intersections and roadway segments are anticipated to operate at a LOS of C or better. Therefore, CO "hotspot" modeling was not conducted for this Project, and no concentrated excessive CO emissions are expected to be caused once the proposed Project is completed. If a subsequent traffic study indicates LOS D or worse, a hotspot analysis will be conducted.

SECTION 6 - CONSISTENCY WITH THE AIR QUALITY ATTAINMENT PLAN

Air quality impacts from proposed projects within Tulare County are controlled through policies and provisions of the SJVAPCD and the Tulare County General Plan (2008). In order to demonstrate that a proposed project would not cause further air quality degradation in either the SJVAPCD's plan to improve air quality within the air basin or the federal requirements to meet certain air quality compliance goals, each project should also demonstrate consistency with the SJVAPCD's adopted Air Quality Attainment Plans (AQAP) for O_3 and PM_{10}. The SJVAPCD is required to submit a "Rate of Progress" document to CARB that demonstrates past and planned progress toward reaching attainment for all criteria pollutants. The California Clean Air Act (CCAA) requires air pollution control districts with severe or extreme air quality problems to provide for a five percent reduction in non-attainment emissions per year. The AQAP prepared for the San Joaquin Valley by the SJVAPCD complies with this requirement. CARB reviews, approves, or amends the document and forwards the plan to the EPA for final review and approval within the SIP.

Air pollution sources associated with stationary sources are regulated through the permitting authority of the SJVAPCD under the New and Modified Stationary Source Review Rule (SJVAPCD Rule 2201). Owners of any new or modified equipment that emits, reduces, or controls air contaminants, except those specifically exempted by the SJVAPCD, are required to apply for an Authority to Construct and Permit to Operate (SJVAPCD Rule 2010). Additionally, best available control technology (BACT) is required on specific types of stationary equipment and is required to offset both stationary source emission increases along with increases in cargo carrier emissions if the specified threshold levels are exceeded (SJVAPCD Rule 2201, 4.7.1). Through this mechanism, the SJVAPCD would ensure that all stationary sources within the project area would be subject to the standards of the SJVAPCD to ensure that new developments do not result in net increases in stationary sources of criteria air pollutants.

6.1 - Required Evaluation Guidelines

CEQA Guidelines and the Federal Clean Air Act (Sections 176 and 316) contain specific references on the need to evaluate consistency between a proposed project and the applicable AQAP for the Project site. To accomplish this, CARB has developed a three-step approach to determine project conformity with the applicable AQAP:

1. Determination that an AQAP is being implemented in the area where the project is being proposed. The SJVAPCD has implemented the current, modified AQAP as approved by CARB.
2. The proposed project must be consistent with the growth assumptions of the applicable AQAP. The proposed Project is included in the employment increases projected in the Tulare County General Plan.
3. The project must contain in its design all reasonably available and feasible air quality control measures. The proposed Project incorporates various policy and rule-required implementation measures that will reduce related emissions.

The CCAA and AQAP identify transportation control measures as methods to further reduce emissions from mobile sources. Strategies identified to reduce vehicular emissions such as reductions in vehicle trips, vehicle use, vehicle miles traveled, vehicle idling, and traffic congestion, in order to reduce vehicular emissions, can be implemented as control measures under the CCAA as well. Additional measures may also be implemented through the building process, such as providing electrical outlets on exterior walls of structures to encourage the use of electrical landscape maintenance equipment or measures such as electrical outlets for electrical systems on diesel trucks to reduce or eliminate idling time.

As the growth represented by the proposed Project was anticipated by the Tulare County General Plan and incorporated into the AQAP, conclusions may be drawn from the following criteria:

1. That, by definition, the proposed emissions from the Project are below the SJVAPCD's established emissions impact thresholds.
2. That the primary source of emissions from the Project would be motor vehicles which would be licensed through the State of California and whose emissions are already incorporated into the CARB's Tulare County's Emissions Inventory.

Based on these factors, the Project *is consistent with the AQAP*.

6.2 - Consistency with the Tulare County Association of Government's Final Conformity Analysis

The Tulare County Association of Governments (TCAG) Final Conformity Analysis demonstrates that the regional transportation expenditure plans (2022 Regional Transportation Plan and 2025 Federal Transportation Improvement Program) in the Tulare County portion of the San Joaquin Valley air quality attainment areas would not hinder the efforts set out in the CARB's SIP for each area's non-attainment pollutants (CO, O_3 and PM_{10}). The analysis uses the California Department of Finance (DOF) as the primary county-level forecasting reference for population growth and the California Employment Development Department (EDD), Info USA, and Woods & Poole for forecasting employment growth. Housing forecasts are based on DOF data for the base year and projected using a Planning Center Study from 2012 conducted by the San Joaquin Valley.

The TCAG Conformity Analysis considers General Plan Amendments (GPA) and zone changes that were enacted at the time of the analysis as projected growth within the area based on land use designations incorporated within the Tulare County General Plan. Land use designations that are altered based on subsequent GPAs that were not included in the Conformity Analysis were not incorporated into the TCAG analysis. Consequently, if a proposed project is not included in the regional growth forecast using the latest planning assumptions, it may not be said to conform to the regional growth forecast.

Under the current City of Visalia General Plan, the Project site is designated as Residential Low, Residential Medium and Residential High Density and Conservation (see **Figure 6-1**).

As the Project site was Prezoned for residential land uses the Project's growth was analyzed in the projected growth of the Final Conformity Analysis. Additionally, under current policies, after a General Plan Amendment (GPA) is approved, housing and employment assumptions can be updated to reflect the capacity changes. The proposed development does require an approval of the Prezone; therefore, the existing growth forecast may be modified to reflect any necessary changes. Therefore, the Project will not be in conflict with the Final Conformity Analysis.

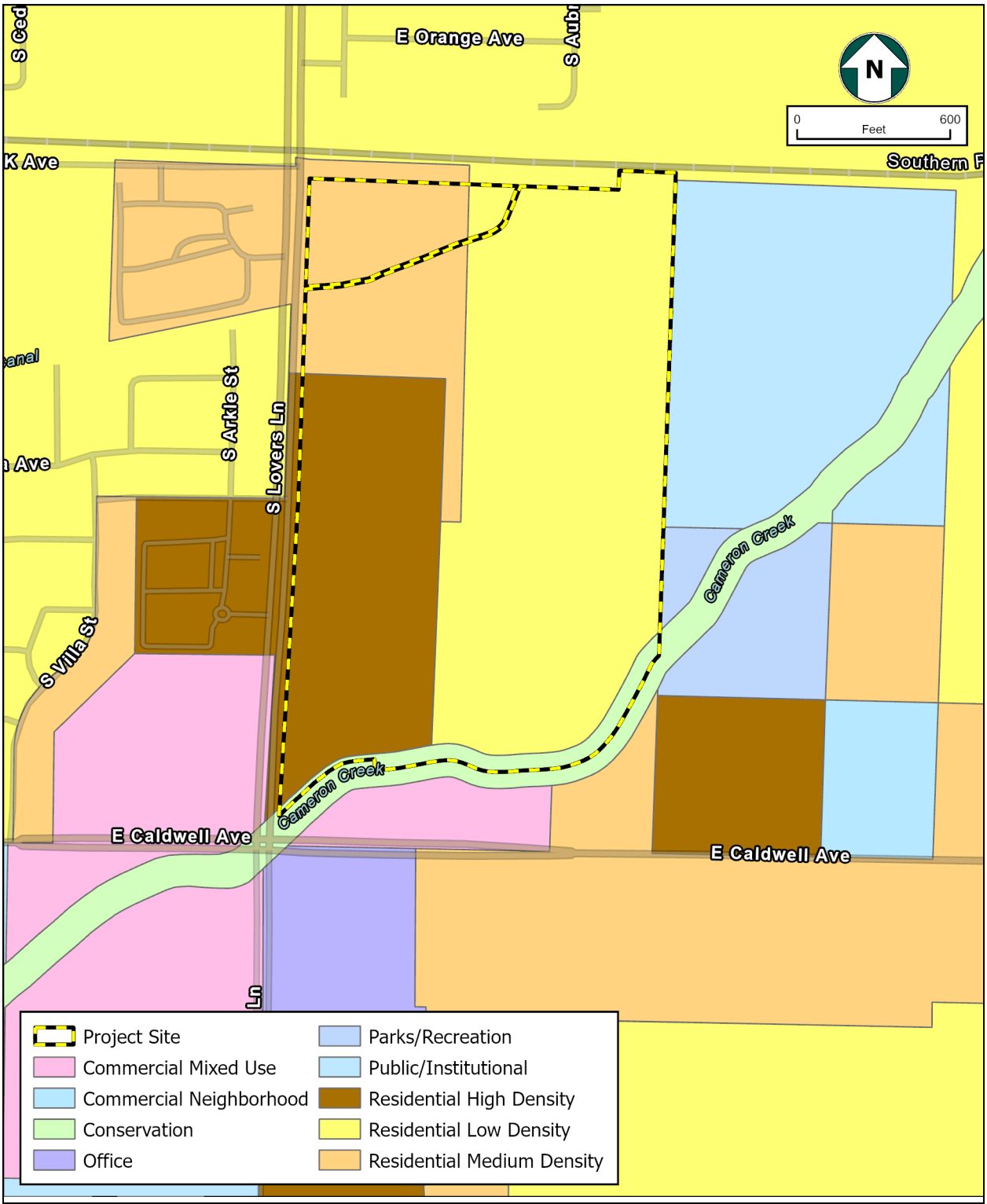


Figure 6-1
Existing Land Use Designations

SECTION 7 - MITIGATION AND OTHER RECOMMENDED MEASURES

The estimated construction and operational emissions from the proposed Project would be less than significant after the specific mitigation measures listed below. However, to ensure that the Project is in compliance with all applicable SJVAPCD rules and regulations and that emissions are further reduced, the applicant should implement and comply with a number of measures that are either recommended as a "good operating practice" for environmental stewardship, or they are required by regulation. Some of the listed measures are regulatory requirements or construction requirements that would result in further emission reductions through their inclusion in Project construction and long-term design. The following measures either have been applied to the Project through the CalEEMod model and would be incorporated into the Project by design or would be implemented in conjunction with SJVAPCD rules as conditions of approval.

7.1 - Applicable PM_{10} Reduction Measures

As the Project would be completed in compliance with SJVAPCD Regulation VIII, dust control measures would be taken to ensure compliance, specifically during the grading and construction phases. The required Regulation VIII measures are as follows:

- Water previously exposed surfaces (soil) whenever visible dust is capable of drifting from the site or approaches 20 percent opacity.
- Water all unpaved haul roads a minimum of three times/day or whenever visible dust from such roads is capable of drifting from the site or approaches 20 percent opacity.
- Reduce speed on unpaved roads to less than 15 miles per hour.
- Install and maintain a track-out control device that meets the specifications of SJVAPCD Rule 8041 if the site exceeds 150 vehicle trips per day or more than 20 vehicle trips per day by vehicles with three or more axles.
- Stabilize all disturbed areas, including storage piles, which are not being actively utilized for production purposes using water, chemical stabilizers, or by covering with a tarp or other suitable cover.
- Control fugitive dust emissions during land clearing, grubbing, scraping, excavation, leveling, grading, or cut and fill operations with application of water or by presoaking.
- When transporting materials offsite, maintain a freeboard limit of at least 6 inches and cover or effectively wet to limit visible dust emissions.
- Limit and remove the accumulation of mud and/or dirt from adjacent public roadways at the end of each workday. (Use of dry rotary brushes is prohibited except when preceded or accompanied by sufficient wetting to limit visible dust emissions, and use of blowers is expressly forbidden.)
- Stabilize the surface of storage piles following the addition or removal of materials using water or chemical stabilizer/suppressants.
- Remove visible track-out from the site at the end of each workday.
- Cease grading or other activities that cause excessive (greater than 20 percent opacity) dust formation during periods of high winds (greater than 20 mph over a one-hour period).

7.2 - Recommended Measures to Reduce Equipment Exhaust

In addition, the GAMAQI guidance document lists the following measures as approved and recommended for construction activities. These measures are recommended:

- Maintain all construction equipment as recommended by manufacturer manuals.
- Shut down equipment when not in use for extended periods.
- Construction equipment shall operate no longer than eight cumulative hours per day.
- Use electric equipment for construction whenever possible in lieu of diesel or gasoline powered equipment.
- Curtail use of high-emitting construction equipment during periods of high or excessive ambient pollutant concentrations.
- All construction vehicles shall be equipped with proper emissions control equipment and kept in good and proper running order to substantially reduce NOx emissions.
- On-road and Off-road diesel equipment shall use diesel particulate filters if permitted under the manufacturer's guidelines.
- On-road and Off-road diesel equipment shall use cooled exhaust gas recirculation (EGR) if permitted under the manufacturer's guidelines.
- All construction workers shall be encouraged to shuttle (car-pool) to retail establishments or to remain on-site during lunch breaks.

7.3 - Recommended Measures to Reduce Equipment Exhaust

The following measures are recommended to further reduce the potential for long-term emissions from the Project. These measures are required as a matter of regulatory compliance:

- The Project design shall comply with applicable standards set forth in Title 24 of the Uniform Building Code to minimize total consumption of energy.
- The developer shall comply with the provisions of SJVAPCD Rule 4601 - Architectural Coatings, during the construction of all buildings and facilities. Application of architectural coatings shall be completed in a manner that poses the least emissions impacts whenever such application is deemed proficient.
- The applicant shall comply with the provisions of SJVAPCD Rule 4641 during the construction and pavement of all roads and parking areas within the project area. Specifically, the applicant shall not allow the use of:
  - Rapid cure cutback asphalt.
  - Medium cure cutback asphalt.
  - Slow cure cutback asphalt (as specified in SJVAPCD Rule 4641, Section 5.1.3); or Emulsified asphalt (as specified in SJVAPCD Rule 4641, Section 5.1.4).
  - The developer shall comply with applicable provisions of SJVAPCD Rule 9510 (Indirect Source Review).

SECTION 8 - LEVEL OF SIGNIFICANCE AFTER MITIGATION

The proposed Project would have short-term air quality impacts due to construction activities as well as vehicular emissions. Both of these impacts would be mitigated and *were found to be less than significant before and after mitigation*.

The proposed Project would result in long-term air quality impacts due to operational and related mobile source emissions. These impacts would be mitigated and were found to *be less than significant before and after mitigation*.

The proposed Project would result in impacts to greenhouse gases and climate change due to construction and operational emissions. These impacts *were found to be less than significant*.

The proposed Project, in conjunction with other past, present, and foreseeable future projects, would result in cumulative short-term and long-term impacts to air quality. The proposed Project's incremental contribution to these impacts would be mitigated below thresholds of significance and would not be considered cumulatively considerable. Therefore, the Project's contribution to cumulative impacts *was found to be less than significant*.

The proposed Project, in conjunction with other past, present, and foreseeable future projects, would result in cumulative long-term impacts to global climate change. The proposed Project's incremental contribution to these impacts will be mitigated to the extent feasible and are considered *less than significant*.

SECTION 9 - REFERENCES

California Air Pollution Control Officers Association (CAPCOA). 2025. California Emissions Estimator Model tm (CalEEMod), version 2022.1.1.30, released August 2025.

California Air Resources Board (CARB). 2024. Background Emissions Data. https://www.arb.ca.gov/adam/index.html. Accessed December 2024.

--------. 2024a. California Greenhouse Gas Emissions for 2000 to 2022: Trends of Emissions and Other Indicators. 2024. https://ww2.arb.ca.gov/sites/default/files/2024-09/nc-2000_2022_ghg_inventory_trends.pdf

--------. 2025. Almanac Emission Projection Data. https://ww2.arb.ca.gov/applications/cepam2019v1-04-standard-emission-tool. Accessed 2025.

--------. 2024b. "Ambient Air Quality Standards." July 22, 2024. https://ww2.arb.ca.gov/sites/default/files/2024-08/AAQS%20Table_ADA_FINAL_07222024.pdf

California Environmental Protection Agency (CalEPA). 2006. Climate Action Team (CAT) Report to Governor Schwarzenegger and the Legislature. http://www.climatechange.ca.gov/climate_action_team/reports/2006report/2006-04-03_FINAL_CAT_REPORT.PDF

California Environmental Quality Act (CEQA) Statute and Guidelines. 2024. (Public Resources Code 21000 to 21177) and CEQA Guidelines (California Code of Regulations Title 14, Division 6, Chapter 3, Sections 15000 – 15387).

Enviropedia, 2019. Greenhouse Gas Emissions website, accessed December 2024. http://www.enviropedia.org.uk/Global_Warming/Emissions.php

Tulare County Association of Governments (TCAG). September 2024. Final Conformity Analysis

Tulare County Resource Management Agency (TCRMA). 2012. 2030 Update Tulare County General Plan.

Intergovernmental Panel on Climate Change (IPCC). 2017. Climate Change 2013: The Physical Science Basis. http://www.ipcc.ch/report/ar5/wg1/

---------. Climate Change 2014 Synthesis Report. 2014. https://www.ipcc.ch/pdf/assessment-report/ar5/syr/SYR_AR5_FINAL_full_wcover.pdf

San Joaquin Valley Air Pollution Control District (SJVAPCD). 2025a. Ambient Air Quality Standards & Valley Attainment Status. https://ww2.valleyair.org/air-quality-

information/ambient-air-quality-standards-valley-attainmnet-status/, accessed December 2024.

----------. 2024. Air Monitoring Location Map. https://www.valleyair.org/media/3lkhl4ye/2024-network-plan-map.jpg, accessed December 2024.

----------. 2024a. 2024 Plan for the 2012 Annual $PM_{2.5}$ Standard. June 20, 2024. https://ww2.valleyair.org/media/gw5bacvj/2024-pm25-plan.pdf

----------. 2025b. 2024 Annual Report to the Community. https://www.valleyair.org/news-outreach-and-education/news/valley-air-district-releases-the-2024-annual-report-to-the-community/

----------. 2025c. 2024 Annual Report on the District's Indirect Source Review Program. January 7, 2025. https://ww2.valleyair.org/media/vzuixb0n/item-12_2024-isr-annual-report.pdf

----------. 2025d. Meteorological Data Zip Files for Visalia 2007-2010. https://www.valleyair.org/permitting/air-dispersion-modeling/meteorological-data-zip-files/

----------. 2022. 2022 Plan for the 2015 8-Hour Ozone Standard. December 15, 2022. https://ww2.valleyair.org/media/q55posm0/0000-2022-plan-for-the-2015-8-hour-ozone-standard.pdf

----------. 2015. Guidance for Assessing and Mitigating Air Quality Impacts. March 19, 2015.

----------. 2023. 2023 Maintenance Plan and Redesignation Request for the Revoked 1-Hour Ozone Standard. June 15, 2023. https://ww2.valleyair.org/media/itoegkch/03-adopted-2023-maintenance-plan-and-redesignation-request-for-the-revoked-1-hour-ozone-standard.pdf

United Nations, 2011. The Millennium Development Goals Report 2011. http://www.un.org/millenniumgoals/pdf/(2011_E)%20MDG%20Report%202011_Book%20LR.pdf

United States Energy Information Administration (U.S. EIA). 2023. International Energy Outlook 2023. https://www.eia.gov/outlooks/ieo/pdf/IEO2023_Narrative.pdf

United States Environmental Protection Agency (U.S. EPA). 2024. Inventory of US Greenhouse Gas Emissions and Sinks 1990–2022. https://www.epa.gov/system/files/documents/2024-04/us-ghg-inventory-2024-main-text_04-18-2024.pdf.

United States Geological Survey's (USGS) National Map. 2021. Bakersfield, CA. 7.5 minute. https://viewer.nationalmap.gov/basic/?basemap=b1&category=ustopo&title=US%20Topo%20Download

United States Global Change Research Program (USGCRP). 2014. Climate Change Impacts in the United States: The Third National Climate Assessment. http://nca2014.globalchange.gov/.

Western Regional Climate Center, 2024. Bakersfield, California, Period of Record Monthly Climate Summary, 10/1/1937 to 6/09/2016. https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca0442. Accessed December 2024.

APPENDIX A

PROJECT EMISSION CALCULATIONS

Clements Ranch Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

2.3. Construction Emissions by Year, Mitigated

2.4. Operations Emissions Compared Against Thresholds

2.5. Operations Emissions by Sector, Unmitigated

2.6. Operations Emissions by Sector, Mitigated

3. Construction Emissions Details

3.1. Site Preparation (2026) - Unmitigated

3.2. Site Preparation (2026) - Mitigated

3.3. Grading (2026) - Unmitigated

3.4. Grading (2026) - Mitigated

3.5. Building Construction (2026) - Unmitigated

3.6. Building Construction (2026) - Mitigated

3.7. Building Construction (2027) - Unmitigated

3.8. Building Construction (2027) - Mitigated

3.9. Paving (2027) - Unmitigated

3.10. Paving (2027) - Mitigated

3.11. Architectural Coating (2027) - Unmitigated

3.12. Architectural Coating (2027) - Mitigated

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

4.1.2. Mitigated

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.2. Electricity Emissions By Land Use - Mitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.2.4. Natural Gas Emissions By Land Use - Mitigated

4.3. Area Emissions by Source

4.3.1. Unmitigated

4.3.2. Mitigated

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

4.4.2. Mitigated

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

4.5.2. Mitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.6.2. Mitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.7.2. Mitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.8.2. Mitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.9.2. Mitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.2.2. Mitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.3.2. Mitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.9.2. Mitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.10.4. Landscape Equipment - Mitigated

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.11.2. Mitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.12.2. Mitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.13.2. Mitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.14.2. Mitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.15.2. Mitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

5.18.2.2. Mitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

8.1. Justifications

8.3. Land Use

8.4. Construction

8.4.1. Construction Phases

8.5. Operations

8.5.1. Mobile Sources

8.5.1.2. Fleet Mix

8.5.2. Area Sources

8.5.2.1. Hearths

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Clements Ranch
Construction Start Date	1/1/2026
Operational Year	2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	1.90000
Precipitation (days)	24.4000
Location	36.3023975788099, -119.25860183463266
County	Tulare
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2779
EDFZ	9
Electric Utility	Eastside Power Authority
Gas Utility	Southern California Gas
App Version	2022.1.1.37

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Single Family Housing	293.000	Dwelling Unit	53.2000	571,350	3,431,867	—	990.000	—

Apartments Low Rise	375.000	Dwelling Unit	21.8000	397,500	0.00000	—	1,268.00	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Transportation	T-14*	Provide Electric Vehicle Charging Infrastructure
Energy	E-10-B	Establish Onsite Renewable Energy Systems: Solar Power

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.34990	3.01012	12.9268	30.2094	0.03410	0.40006	2.45005	2.85012	0.36977	0.59135	0.96112	—	6,121.16	6,121.16	0.26791	0.34300	11.5981	6,241.67
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	209.561	209.517	29.2243	29.4111	0.06093	1.24251	5.20603	6.44854	1.14311	2.64895	3.79206	—	6,703.12	6,703.12	0.29117	0.34300	0.30137	6,727.53
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	18.3398	18.1377	11.6571	19.6023	0.02797	0.40205	1.85718	2.25923	0.37085	0.54984	0.92068	—	4,307.46	4,307.46	0.19503	0.20116	2.84426	4,375.13
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.34701	3.31014	2.12742	3.57742	0.00511	0.07337	0.33894	0.41231	0.06768	0.10034	0.16802	—	713.149	713.149	0.03229	0.03330	0.47090	724.352

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	3.34990	3.01012	12.9268	30.2094	0.03410	0.40006	2.45005	2.85012	0.36977	0.59135	0.96112	—	6,121.16	6,121.16	0.26791	0.34300	11.5981	6,241.67
2027	3.17655	2.78778	12.2884	28.8328	0.03410	0.35798	2.45005	2.80804	0.33106	0.59135	0.92241	—	6,044.09	6,044.09	0.25963	0.34300	10.4465	6,163.24
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	3.82318	3.21771	29.2243	29.4111	0.06093	1.24251	5.20603	6.44854	1.14311	2.64895	3.79206	—	6,703.12	6,703.12	0.29117	0.34300	0.30137	6,727.53
2027	209.561	209.517	12.6567	25.5691	0.03410	0.35798	2.45005	2.80804	0.33106	0.59135	0.92241	—	5,796.68	5,796.68	0.21915	0.34300	0.27121	5,904.64
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	2.33840	2.05720	11.6571	19.6023	0.02797	0.40205	1.85718	2.25923	0.37085	0.54984	0.92068	—	4,307.46	4,307.46	0.19503	0.20116	2.84426	4,375.13
2027	18.3398	18.1377	7.52452	15.3939	0.02000	0.22206	1.36506	1.58712	0.20523	0.32902	0.53425	—	3,394.95	3,394.95	0.15439	0.19152	2.53759	3,458.42
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.42676	0.37544	2.12742	3.57742	0.00511	0.07337	0.33894	0.41231	0.06768	0.10034	0.16802	—	713.149	713.149	0.03229	0.03330	0.47090	724.352
2027	3.34701	3.31014	1.37322	2.80938	0.00365	0.04053	0.24912	0.28965	0.03746	0.06005	0.09750	—	562.072	562.072	0.02556	0.03171	0.42013	572.581

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	3.34990	3.01012	12.9268	30.2094	0.03410	0.40006	2.45005	2.85012	0.36977	0.59135	0.96112	—	6,121.16	6,121.16	0.26791	0.34300	11.5981	6,241.67
2027	3.17655	2.78778	12.2884	28.8328	0.03410	0.35798	2.45005	2.80804	0.33106	0.59135	0.92241	—	6,044.09	6,044.09	0.25963	0.34300	10.4465	6,163.24

Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	3.82318	3.21771	29.2243	29.4111	0.06093	1.24251	5.20603	6.44854	1.14311	2.64895	3.79206	—	6,703.12	6,703.12	0.29117	0.34300	0.30137	6,727.53
2027	209.561	209.517	12.6567	25.5691	0.03410	0.35798	2.45005	2.80804	0.33106	0.59135	0.92241	—	5,796.68	5,796.68	0.21915	0.34300	0.27121	5,904.64
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	2.33840	2.05720	11.6571	19.6023	0.02797	0.40205	1.85718	2.25923	0.37085	0.54984	0.92068	—	4,307.46	4,307.46	0.19503	0.20116	2.84426	4,375.13
2027	18.3398	18.1377	7.52452	15.3939	0.02000	0.22206	1.36506	1.58712	0.20523	0.32902	0.53425	—	3,394.95	3,394.95	0.15439	0.19152	2.53759	3,458.42
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.42676	0.37544	2.12742	3.57742	0.00511	0.07337	0.33894	0.41231	0.06768	0.10034	0.16802	—	713.149	713.149	0.03229	0.03330	0.47090	724.352
2027	3.34701	3.31014	1.37322	2.80938	0.00365	0.04053	0.24912	0.28965	0.03746	0.06005	0.09750	—	562.072	562.072	0.02556	0.03171	0.42013	572.581

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	48.2805	46.5880	17.8882	177.190	0.27895	0.54470	22.3739	22.9186	0.52880	5.66638	6.19518	363.239	36,941.9	37,305.1	38.8236	1.51779	87.1860	38,815.2
Mit.	48.2805	46.5880	17.8882	177.190	0.27895	0.54470	22.3739	22.9186	0.52880	5.66638	6.19518	363.239	36,340.9	36,704.2	38.7798	1.51249	87.1860	38,211.6
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	2%	2%	< 0.5%	< 0.5%	—	2%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	42.0764	40.4672	19.7015	119.659	0.25271	0.52695	22.3739	22.9008	0.51539	5.66638	6.18176	363.239	34,352.9	34,716.2	39.0873	1.63587	9.01939	36,189.9
Mit.	42.0764	40.4672	19.7015	119.659	0.25271	0.52695	22.3739	22.9008	0.51539	5.66638	6.18176	363.239	33,752.0	34,115.2	39.0435	1.63056	9.01939	35,586.2
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	2%	2%	< 0.5%	< 0.5%	—	2%

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	42.9189	41.3631	17.8405	130.254	0.24542	0.52454	20.5850	21.1095	0.51160	5.21439	5.72598	363.239	33,561.1	33,924.3	38.8455	1.48146	39.3274	35,376.3
Mit.	42.9189	41.3631	17.8405	130.254	0.24542	0.52454	20.5850	21.1095	0.51160	5.21439	5.72598	363.239	32,960.1	33,323.4	38.8018	1.47616	39.3274	34,772.6
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	2%	2%	< 0.5%	< 0.5%	—	2%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	7.83270	7.54876	3.25588	23.7714	0.04479	0.09573	3.75675	3.85248	0.09337	0.95163	1.04499	60.1384	5,556.42	5,616.56	6.43132	0.24527	6.51110	5,856.94
Mit.	7.83270	7.54876	3.25588	23.7714	0.04479	0.09573	3.75675	3.85248	0.09337	0.95163	1.04499	60.1384	5,456.92	5,517.06	6.42408	0.24439	6.51110	5,757.00
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	2%	2%	< 0.5%	< 0.5%	—	2%

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	21.8581	20.6089	13.1208	137.391	0.24918	0.17051	22.3739	22.5444	0.15896	5.66638	5.82533	—	25,548.4	25,548.4	1.46376	1.32338	80.2471	26,059.6
Area	25.9069	25.7213	0.36203	37.9242	0.00164	0.01801	—	0.01801	0.01367	—	0.01367	0.00000	101.327	101.327	0.00424	0.00084	—	101.684
Energy	0.51551	0.25776	4.40529	1.87459	0.02812	0.35617	—	0.35617	0.35617	—	0.35617	—	10,971.2	10,971.2	0.88657	0.05801	—	11,010.7
Water	—	—	—	—	—	—	—	—	—	—	—	54.4821	320.940	375.422	5.60989	0.13557	—	556.068
Waste	—	—	—	—	—	—	—	—	—	—	—	308.757	0.00000	308.757	30.8592	0.00000	—	1,080.24
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.93891	6.93891
Total	48.2805	46.5880	17.8882	177.190	0.27895	0.54470	22.3739	22.9186	0.52880	5.66638	6.19518	363.239	36,941.9	37,305.1	38.8236	1.51779	87.1860	38,815.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	19.1661	17.8146	15.2962	117.784	0.22459	0.17078	22.3739	22.5447	0.15922	5.66638	5.82559	—	23,060.8	23,060.8	1.73166	1.44229	2.08048	23,535.9

Area	22.3948	22.3948	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Energy	0.51551	0.25776	4.40529	1.87459	0.02812	0.35617	—	0.35617	0.35617	—	0.35617	—	10,971.2	10,971.2	0.88657	0.05801	—	11,010.7
Water	—	—	—	—	—	—	—	—	—	—	—	54.4821	320.940	375.422	5.60989	0.13557	—	556.068
Waste	—	—	—	—	—	—	—	—	—	—	—	308.757	0.00000	308.757	30.8592	0.00000	—	1,080.24
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.93891	6.93891
Total	42.0764	40.4672	19.7015	119.659	0.25271	0.52695	22.3739	22.9008	0.51539	5.66638	6.18176	363.239	34,352.9	34,716.2	39.0873	1.63587	9.01939	36,189.9
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	18.2766	17.0701	13.2566	109.677	0.21649	0.15949	20.5850	20.7444	0.14869	5.21439	5.36307	—	22,218.9	22,218.9	1.48784	1.28747	32.3885	22,672.2
Area	24.1268	24.0352	0.17854	18.7023	0.00081	0.00888	—	0.00888	0.00674	—	0.00674	0.00000	49.9695	49.9695	0.00209	0.00041	—	50.1453
Energy	0.51551	0.25776	4.40529	1.87459	0.02812	0.35617	—	0.35617	0.35617	—	0.35617	—	10,971.2	10,971.2	0.88657	0.05801	—	11,010.7
Water	—	—	—	—	—	—	—	—	—	—	—	54.4821	320.940	375.422	5.60989	0.13557	—	556.068
Waste	—	—	—	—	—	—	—	—	—	—	—	308.757	0.00000	308.757	30.8592	0.00000	—	1,080.24
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.93891	6.93891
Total	42.9189	41.3631	17.8405	130.254	0.24542	0.52454	20.5850	21.1095	0.51160	5.21439	5.72598	363.239	33,561.1	33,924.3	38.8455	1.48146	39.3274	35,376.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.33548	3.11529	2.41933	20.0161	0.03951	0.02911	3.75675	3.78586	0.02714	0.95163	0.97876	—	3,678.60	3,678.60	0.24633	0.21316	5.36228	3,753.64
Area	4.40314	4.38643	0.03258	3.41318	0.00015	0.00162	—	0.00162	0.00123	—	0.00123	0.00000	8.27302	8.27302	0.00035	0.00007	—	8.30213
Energy	0.09408	0.04704	0.80397	0.34211	0.00513	0.06500	—	0.06500	0.06500	—	0.06500	—	1,816.41	1,816.41	0.14678	0.00960	—	1,822.94
Water	—	—	—	—	—	—	—	—	—	—	—	9.02014	53.1352	62.1554	0.92878	0.02244	—	92.0634
Waste	—	—	—	—	—	—	—	—	—	—	—	51.1182	0.00000	51.1182	5.10908	0.00000	—	178.845
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.14882	1.14882
Total	7.83270	7.54876	3.25588	23.7714	0.04479	0.09573	3.75675	3.85248	0.09337	0.95163	1.04499	60.1384	5,556.42	5,616.56	6.43132	0.24527	6.51110	5,856.94

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	21.8581	20.6089	13.1208	137.391	0.24918	0.17051	22.3739	22.5444	0.15896	5.66638	5.82533	—	25,548.4	25,548.4	1.46376	1.32338	80.2471	26,059.6
Area	25.9069	25.7213	0.36203	37.9242	0.00164	0.01801	—	0.01801	0.01367	—	0.01367	0.00000	101.327	101.327	0.00424	0.00084	—	101.684
Energy	0.51551	0.25776	4.40529	1.87459	0.02812	0.35617	—	0.35617	0.35617	—	0.35617	—	10,370.3	10,370.3	0.84281	0.05270	—	10,407.1
Water	—	—	—	—	—	—	—	—	—	—	—	54.4821	320.940	375.422	5.60989	0.13557	—	556.068
Waste	—	—	—	—	—	—	—	—	—	—	—	308.757	0.00000	308.757	30.8592	0.00000	—	1,080.24
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.93891	6.93891
Total	48.2805	46.5880	17.8882	177.190	0.27895	0.54470	22.3739	22.9186	0.52880	5.66638	6.19518	363.239	36,340.9	36,704.2	38.7798	1.51249	87.1860	38,211.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	19.1661	17.8146	15.2962	117.784	0.22459	0.17078	22.3739	22.5447	0.15922	5.66638	5.82559	—	23,060.8	23,060.8	1.73166	1.44229	2.08048	23,535.9
Area	22.3948	22.3948	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Energy	0.51551	0.25776	4.40529	1.87459	0.02812	0.35617	—	0.35617	0.35617	—	0.35617	—	10,370.3	10,370.3	0.84281	0.05270	—	10,407.1
Water	—	—	—	—	—	—	—	—	—	—	—	54.4821	320.940	375.422	5.60989	0.13557	—	556.068
Waste	—	—	—	—	—	—	—	—	—	—	—	308.757	0.00000	308.757	30.8592	0.00000	—	1,080.24
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.93891	6.93891
Total	42.0764	40.4672	19.7015	119.659	0.25271	0.52695	22.3739	22.9008	0.51539	5.66638	6.18176	363.239	33,752.0	34,115.2	39.0435	1.63056	9.01939	35,586.2
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	18.2766	17.0701	13.2566	109.677	0.21649	0.15949	20.5850	20.7444	0.14869	5.21439	5.36307	—	22,218.9	22,218.9	1.48784	1.28747	32.3885	22,672.2
Area	24.1268	24.0352	0.17854	18.7023	0.00081	0.00888	—	0.00888	0.00674	—	0.00674	0.00000	49.9695	49.9695	0.00209	0.00041	—	50.1453
Energy	0.51551	0.25776	4.40529	1.87459	0.02812	0.35617	—	0.35617	0.35617	—	0.35617	—	10,370.3	10,370.3	0.84281	0.05270	—	10,407.1
Water	—	—	—	—	—	—	—	—	—	—	—	54.4821	320.940	375.422	5.60989	0.13557	—	556.068
Waste	—	—	—	—	—	—	—	—	—	—	—	308.757	0.00000	308.757	30.8592	0.00000	—	1,080.24
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.93891	6.93891
Total	42.9189	41.3631	17.8405	130.254	0.24542	0.52454	20.5850	21.1095	0.51160	5.21439	5.72598	363.239	32,960.1	33,323.4	38.8018	1.47616	39.3274	34,772.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	3.33548	3.11529	2.41933	20.0161	0.03951	0.02911	3.75675	3.78586	0.02714	0.95163	0.97876	—	3,678.60	3,678.60	0.24633	0.21316	5.36228	3,753.64
Area	4.40314	4.38643	0.03258	3.41318	0.00015	0.00162	—	0.00162	0.00123	—	0.00123	0.00000	8.27302	8.27302	0.00035	0.00007	—	8.30213
Energy	0.09408	0.04704	0.80397	0.34211	0.00513	0.06500	—	0.06500	0.06500	—	0.06500	—	1,716.92	1,716.92	0.13954	0.00873	—	1,723.01
Water	—	—	—	—	—	—	—	—	—	—	—	9.02014	53.1352	62.1554	0.92878	0.02244	—	92.0634
Waste	—	—	—	—	—	—	—	—	—	—	—	51.1182	0.00000	51.1182	5.10908	0.00000	—	178.845
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.14882	1.14882
Total	7.83270	7.54876	3.25588	23.7714	0.04479	0.09573	3.75675	3.85248	0.09337	0.95163	1.04499	60.1384	5,456.92	5,517.06	6.42408	0.24439	6.51110	5,757.00

3. Construction Emissions Details

3.1. Site Preparation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.74146	3.14387	29.1635	28.8082	0.04890	1.24251	—	1.24251	1.14311	—	1.14311	—	5,297.94	5,297.94	0.21491	0.04298	—	5,316.12
Dust From Material Movement	—	—	—	—	—	—	5.11082	5.11082	—	2.62664	2.62664	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.16401	0.13781	1.27840	1.26282	0.00214	0.05447	—	0.05447	0.05011	—	0.05011	—	232.238	232.238	0.00942	0.00188	—	233.035
Dust From Material Movement	—	—	—	—	—	—	0.22404	0.22404	—	0.11514	0.11514	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.02993	0.02515	0.23331	0.23047	0.00039	0.00994	—	0.00994	0.00914	—	0.00914	—	38.4497	38.4497	0.00156	0.00031	—	38.5817
Dust From Material Movement	—	—	—	—	—	—	0.04089	0.04089	—	0.02101	0.02101	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08171	0.07384	0.06076	0.60294	0.00000	0.00000	0.09521	0.09521	0.00000	0.02232	0.02232	—	91.4772	91.4772	0.00760	0.00451	0.00956	93.0219
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00362	0.00342	0.00234	0.02727	0.00000	0.00000	0.00411	0.00411	0.00000	0.00096	0.00096	—	4.15878	4.15878	0.00030	0.00020	0.00696	4.23220
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.00066	0.00062	0.00043	0.00498	0.00000	0.00000	0.00075	0.00075	0.00000	0.00018	0.00018	—	0.68853	0.68853	0.00005	0.00003	0.00115	0.70069
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2. Site Preparation (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.74146	3.14387	29.1635	28.8082	0.04890	1.24251	—	1.24251	1.14311	—	1.14311	—	5,297.94	5,297.94	0.21491	0.04298	—	5,316.12
Dust From Material Movement	—	—	—	—	—	—	5.11082	5.11082	—	2.62664	2.62664	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16401	0.13781	1.27840	1.26282	0.00214	0.05447	—	0.05447	0.05011	—	0.05011	—	232.238	232.238	0.00942	0.00188	—	233.035
Dust From Material Movement	—	—	—	—	—	—	0.22404	0.22404	—	0.11514	0.11514	—	—	—	—	—	—	—

Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02993	0.02515	0.23331	0.23047	0.00039	0.00994	—	0.00994	0.00914	—	0.00914	—	38.4497	38.4497	0.00156	0.00031	—	38.5817
Dust From Material Movement	—	—	—	—	—	—	0.04089	0.04089	—	0.02101	0.02101	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08171	0.07384	0.06076	0.60294	0.00000	0.00000	0.09521	0.09521	0.00000	0.02232	0.02232	—	91.4772	91.4772	0.00760	0.00451	0.00956	93.0219
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00362	0.00342	0.00234	0.02727	0.00000	0.00000	0.00411	0.00411	0.00000	0.00096	0.00096	—	4.15878	4.15878	0.00030	0.00020	0.00696	4.23220
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00066	0.00062	0.00043	0.00498	0.00000	0.00000	0.00075	0.00075	0.00000	0.00018	0.00018	—	0.68853	0.68853	0.00005	0.00003	0.00115	0.70069
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3. Grading (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.62261	3.04400	27.2253	27.5707	0.06093	1.12137	—	1.12137	1.03166	—	1.03166	—	6,598.58	6,598.58	0.26767	0.05353	—	6,621.22
Dust From Material Movement	—	—	—	—	—	—	2.39293	2.39293	—	0.94998	0.94998	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.39700	0.33359	2.98359	3.02144	0.00668	0.12289	—	0.12289	0.11306	—	0.11306	—	723.132	723.132	0.02933	0.00587	—	725.613
Dust From Material Movement	—	—	—	—	—	—	0.26224	0.26224	—	0.10411	0.10411	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.07245	0.06088	0.54451	0.55141	0.00122	0.02243	—	0.02243	0.02063	—	0.02063	—	119.723	119.723	0.00486	0.00097	—	120.134
Dust From Material Movement	—	—	—	—	—	—	0.04786	0.04786	—	0.01900	0.01900	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09339	0.08439	0.06945	0.68908	0.00000	0.00000	0.10881	0.10881	0.00000	0.02550	0.02550	—	104.545	104.545	0.00869	0.00516	0.01092	106.311
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01033	0.00977	0.00667	0.07792	0.00000	0.00000	0.01174	0.01174	0.00000	0.00275	0.00275	—	11.8822	11.8822	0.00086	0.00057	0.01990	12.0920
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00189	0.00178	0.00122	0.01422	0.00000	0.00000	0.00214	0.00214	0.00000	0.00050	0.00050	—	1.96724	1.96724	0.00014	0.00009	0.00329	2.00197
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4. Grading (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.62261	3.04400	27.2253	27.5707	0.06093	1.12137	—	1.12137	1.03166	—	1.03166	—	6,598.58	6,598.58	0.26767	0.05353	—	6,621.22
Dust From Material Movement	—	—	—	—	—	—	2.39293	2.39293	—	0.94998	0.94998	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.39700	0.33359	2.98359	3.02144	0.00668	0.12289	—	0.12289	0.11306	—	0.11306	—	723.132	723.132	0.02933	0.00587	—	725.613
Dust From Material Movement	—	—	—	—	—	—	0.26224	0.26224	—	0.10411	0.10411	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07245	0.06088	0.54451	0.55141	0.00122	0.02243	—	0.02243	0.02063	—	0.02063	—	119.723	119.723	0.00486	0.00097	—	120.134

Dust From Material Movement	—	—	—	—	—	—	0.04786	0.04786	—	0.01900	0.01900	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09339	0.08439	0.06945	0.68908	0.00000	0.00000	0.10881	0.10881	0.00000	0.02550	0.02550	—	104.545	104.545	0.00869	0.00516	0.01092	106.311
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01033	0.00977	0.00667	0.07792	0.00000	0.00000	0.01174	0.01174	0.00000	0.00275	0.00275	—	11.8822	11.8822	0.00086	0.00057	0.01990	12.0920
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00189	0.00178	0.00122	0.01422	0.00000	0.00000	0.00214	0.00214	0.00000	0.00050	0.00050	—	1.96724	1.96724	0.00014	0.00009	0.00329	2.00197
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.27993	1.07101	9.85401	12.9664	0.02340	0.37865	—	0.37865	0.34836	—	0.34836	—	2,397.24	2,397.24	0.09724	0.01945	—	2,405.47
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.27993	1.07101	9.85401	12.9664	0.02340	0.37865	—	0.37865	0.34836	—	0.34836	—	2,397.24	2,397.24	0.09724	0.01945	—	2,405.47
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.71887	0.60153	5.53444	7.28249	0.01314	0.21267	—	0.21267	0.19566	—	0.19566	—	1,346.40	1,346.40	0.05462	0.01092	—	1,351.02
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13119	0.10978	1.01004	1.32905	0.00240	0.03881	—	0.03881	0.03571	—	0.03571	—	222.911	222.911	0.00904	0.00181	—	223.676
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	1.97677	1.87991	0.99914	16.4855	0.00000	0.00000	2.04274	2.04274	0.00000	0.47881	0.47881	—	2,217.63	2,217.63	0.13824	0.09685	7.89343	2,257.84
Vendor	0.09320	0.05919	2.07367	0.75755	0.01071	0.02141	0.40731	0.42872	0.02141	0.11253	0.13394	—	1,506.29	1,506.29	0.03243	0.22670	3.70466	1,578.36
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.75326	1.58439	1.30377	12.9367	0.00000	0.00000	2.04274	2.04274	0.00000	0.47881	0.47881	—	1,962.73	1,962.73	0.16307	0.09685	0.20508	1,995.88
Vendor	0.08848	0.05447	2.20780	0.78747	0.01071	0.02141	0.40731	0.42872	0.02141	0.11253	0.13394	—	1,507.92	1,507.92	0.03086	0.22670	0.09629	1,576.34
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.99401	0.93961	0.64206	7.49690	0.00000	0.00000	1.12931	1.12931	0.00000	0.26443	0.26443	—	1,143.27	1,143.27	0.08229	0.05440	1.91461	1,163.45
Vendor	0.05058	0.03148	1.20958	0.43343	0.00601	0.01203	0.22575	0.23777	0.01203	0.06245	0.07447	—	846.383	846.383	0.01821	0.12732	0.90278	885.684
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18141	0.17148	0.11718	1.36818	0.00000	0.00000	0.20610	0.20610	0.00000	0.04826	0.04826	—	189.282	189.282	0.01362	0.00901	0.31699	192.623
Vendor	0.00923	0.00574	0.22075	0.07910	0.00110	0.00219	0.04120	0.04339	0.00219	0.01140	0.01359	—	140.128	140.128	0.00302	0.02108	0.14947	146.635
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6. Building Construction (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.27993	1.07101	9.85401	12.9664	0.02340	0.37865	—	0.37865	0.34836	—	0.34836	—	2,397.24	2,397.24	0.09724	0.01945	—	2,405.47

Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.27993	1.07101	9.85401	12.9664	0.02340	0.37865	—	0.37865	0.34836	—	0.34836	—	2,397.24	2,397.24	0.09724	0.01945	—	2,405.47
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.71887	0.60153	5.53444	7.28249	0.01314	0.21267	—	0.21267	0.19566	—	0.19566	—	1,346.40	1,346.40	0.05462	0.01092	—	1,351.02
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13119	0.10978	1.01004	1.32905	0.00240	0.03881	—	0.03881	0.03571	—	0.03571	—	222.911	222.911	0.00904	0.00181	—	223.676
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.97677	1.87991	0.99914	16.4855	0.00000	0.00000	2.04274	2.04274	0.00000	0.47881	0.47881	—	2,217.63	2,217.63	0.13824	0.09685	7.89343	2,257.84
Vendor	0.09320	0.05919	2.07367	0.75755	0.01071	0.02141	0.40731	0.42872	0.02141	0.11253	0.13394	—	1,506.29	1,506.29	0.03243	0.22670	3.70466	1,578.36
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	1.75326	1.58439	1.30377	12.9367	0.00000	0.00000	2.04274	2.04274	0.00000	0.47881	0.47881	—	1,962.73	1,962.73	0.16307	0.09685	0.20508	1,995.88
Vendor	0.08848	0.05447	2.20780	0.78747	0.01071	0.02141	0.40731	0.42872	0.02141	0.11253	0.13394	—	1,507.92	1,507.92	0.03086	0.22670	0.09629	1,576.34
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.99401	0.93961	0.64206	7.49690	0.00000	0.00000	1.12931	1.12931	0.00000	0.26443	0.26443	—	1,143.27	1,143.27	0.08229	0.05440	1.91461	1,163.45
Vendor	0.05058	0.03148	1.20958	0.43343	0.00601	0.01203	0.22575	0.23777	0.01203	0.06245	0.07447	—	846.383	846.383	0.01821	0.12732	0.90278	885.684
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18141	0.17148	0.11718	1.36818	0.00000	0.00000	0.20610	0.20610	0.00000	0.04826	0.04826	—	189.282	189.282	0.01362	0.00901	0.31699	192.623
Vendor	0.00923	0.00574	0.22075	0.07910	0.00110	0.00219	0.04120	0.04339	0.00219	0.01140	0.01359	—	140.128	140.128	0.00302	0.02108	0.14947	146.635
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.7. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23076	1.02988	9.39093	12.9379	0.02340	0.33657	—	0.33657	0.30965	—	0.30965	—	2,397.08	2,397.08	0.09724	0.01945	—	2,405.30
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.23076	1.02988	9.39093	12.9379	0.02340	0.33657	—	0.33657	0.30965	—	0.30965	—	2,397.08	2,397.08	0.09724	0.01945	—	2,405.30
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67680	0.56633	5.16409	7.11461	0.01287	0.18508	—	0.18508	0.17028	—	0.17028	—	1,318.16	1,318.16	0.05347	0.01069	—	1,322.68
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12352	0.10336	0.94245	1.29842	0.00235	0.03378	—	0.03378	0.03108	—	0.03108	—	218.236	218.236	0.00885	0.00177	—	218.985
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.85260	1.70028	0.91885	15.1618	0.00000	0.00000	2.04274	2.04274	0.00000	0.47881	0.47881	—	2,172.25	2,172.25	0.12996	0.09685	7.15513	2,211.51
Vendor	0.09320	0.05762	1.97858	0.73300	0.01071	0.02141	0.40731	0.42872	0.02141	0.11253	0.13394	—	1,474.77	1,474.77	0.03243	0.22670	3.29133	1,546.42
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.59019	1.48506	1.15146	11.8714	0.00000	0.00000	2.04274	2.04274	0.00000	0.47881	0.47881	—	1,923.17	1,923.17	0.09106	0.09685	0.18594	1,954.49
Vendor	0.08690	0.05290	2.11429	0.75976	0.01071	0.02141	0.40731	0.42872	0.02141	0.11253	0.13394	—	1,476.43	1,476.43	0.03086	0.22670	0.08527	1,544.85
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.88810	0.83029	0.58448	6.75569	0.00000	0.00000	1.10570	1.10570	0.00000	0.25890	0.25890	—	1,096.74	1,096.74	0.07602	0.05326	1.69915	1,116.21
Vendor	0.04952	0.03082	1.13789	0.40914	0.00589	0.01177	0.22103	0.23280	0.01177	0.06114	0.07292	—	811.358	811.358	0.01697	0.12466	0.77952	849.711
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.16208	0.15153	0.10667	1.23291	0.00000	0.00000	0.20179	0.20179	0.00000	0.04725	0.04725	—	181.578	181.578	0.01259	0.00882	0.28131	184.801
Vendor	0.00904	0.00562	0.20767	0.07467	0.00107	0.00215	0.04034	0.04249	0.00215	0.01116	0.01331	—	134.330	134.330	0.00281	0.02064	0.12906	140.679
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.8. Building Construction (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23076	1.02988	9.39093	12.9379	0.02340	0.33657	—	0.33657	0.30965	—	0.30965	—	2,397.08	2,397.08	0.09724	0.01945	—	2,405.30
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23076	1.02988	9.39093	12.9379	0.02340	0.33657	—	0.33657	0.30965	—	0.30965	—	2,397.08	2,397.08	0.09724	0.01945	—	2,405.30
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67680	0.56633	5.16409	7.11461	0.01287	0.18508	—	0.18508	0.17028	—	0.17028	—	1,318.16	1,318.16	0.05347	0.01069	—	1,322.68
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12352	0.10336	0.94245	1.29842	0.00235	0.03378	—	0.03378	0.03108	—	0.03108	—	218.236	218.236	0.00885	0.00177	—	218.985
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.85260	1.70028	0.91885	15.1618	0.00000	0.00000	2.04274	2.04274	0.00000	0.47881	0.47881	—	2,172.25	2,172.25	0.12996	0.09685	7.15513	2,211.51
Vendor	0.09320	0.05762	1.97858	0.73300	0.01071	0.02141	0.40731	0.42872	0.02141	0.11253	0.13394	—	1,474.77	1,474.77	0.03243	0.22670	3.29133	1,546.42
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.59019	1.48506	1.15146	11.8714	0.00000	0.00000	2.04274	2.04274	0.00000	0.47881	0.47881	—	1,923.17	1,923.17	0.09106	0.09685	0.18594	1,954.49
Vendor	0.08690	0.05290	2.11429	0.75976	0.01071	0.02141	0.40731	0.42872	0.02141	0.11253	0.13394	—	1,476.43	1,476.43	0.03086	0.22670	0.08527	1,544.85
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.88810	0.83029	0.58448	6.75569	0.00000	0.00000	1.10570	1.10570	0.00000	0.25890	0.25890	—	1,096.74	1,096.74	0.07602	0.05326	1.69915	1,116.21
Vendor	0.04952	0.03082	1.13789	0.40914	0.00589	0.01177	0.22103	0.23280	0.01177	0.06114	0.07292	—	811.358	811.358	0.01697	0.12466	0.77952	849.711
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.16208	0.15153	0.10667	1.23291	0.00000	0.00000	0.20179	0.20179	0.00000	0.04725	0.04725	—	181.578	181.578	0.01259	0.00882	0.28131	184.801
Vendor	0.00904	0.00562	0.20767	0.07467	0.00107	0.00215	0.04034	0.04249	0.00215	0.01116	0.01331	—	134.330	134.330	0.00281	0.02064	0.12906	140.679
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.9. Paving (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.87761	0.73744	6.94439	9.95313	0.01395	0.29813	—	0.29813	0.27428	—	0.27428	—	1,511.11	1,511.11	0.06130	0.01226	—	1,516.29
Paving	0.00000	0.00000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06973	0.05859	0.55175	0.79080	0.00111	0.02369	—	0.02369	0.02179	—	0.02179	—	120.061	120.061	0.00487	0.00097	—	120.473
Paving	0.00000	0.00000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.01273	0.01069	0.10069	0.14432	0.00020	0.00432	—	0.00432	0.00398	—	0.00398	—	19.8774	19.8774	0.00081	0.00016	—	19.9456
Paving	0.00000	0.00000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06353	0.05933	0.04600	0.47425	0.00000	0.00000	0.08161	0.08161	0.00000	0.01913	0.01913	—	76.8285	76.8285	0.00364	0.00387	0.00743	78.0798
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00513	0.00479	0.00337	0.03899	0.00000	0.00000	0.00638	0.00638	0.00000	0.00149	0.00149	—	6.33035	6.33035	0.00044	0.00031	0.00981	6.44274
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00094	0.00087	0.00062	0.00712	0.00000	0.00000	0.00116	0.00116	0.00000	0.00027	0.00027	—	1.04806	1.04806	0.00007	0.00005	0.00162	1.06667
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.10. Paving (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.87761	0.73744	6.94439	9.95313	0.01395	0.29813	—	0.29813	0.27428	—	0.27428	—	1,511.11	1,511.11	0.06130	0.01226	—	1,516.29
Paving	0.00000	0.00000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06973	0.05859	0.55175	0.79080	0.00111	0.02369	—	0.02369	0.02179	—	0.02179	—	120.061	120.061	0.00487	0.00097	—	120.473
Paving	0.00000	0.00000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01273	0.01069	0.10069	0.14432	0.00020	0.00432	—	0.00432	0.00398	—	0.00398	—	19.8774	19.8774	0.00081	0.00016	—	19.9456
Paving	0.00000	0.00000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06353	0.05933	0.04600	0.47425	0.00000	0.00000	0.08161	0.08161	0.00000	0.01913	0.01913	—	76.8285	76.8285	0.00364	0.00387	0.00743	78.0798
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00513	0.00479	0.00337	0.03899	0.00000	0.00000	0.00638	0.00638	0.00000	0.00149	0.00149	—	6.33035	6.33035	0.00044	0.00031	0.00981	6.44274
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00094	0.00087	0.00062	0.00712	0.00000	0.00000	0.00116	0.00116	0.00000	0.00027	0.00027	—	1.04806	1.04806	0.00007	0.00005	0.00162	1.06667
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.11. Architectural Coating (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13715	0.11335	0.83116	1.12539	0.00173	0.01905	—	0.01905	0.01752	—	0.01752	—	133.513	133.513	0.00542	0.00108	—	133.971

Architectural Coating	209.106	209.106	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01090	0.00901	0.06604	0.08941	0.00014	0.00151	—	0.00151	0.00139	—	0.00139	—	10.6079	10.6079	0.00043	0.00009	—	10.6443
Architectural Coatings	16.6139	16.6139	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00199	0.00164	0.01205	0.01632	0.00003	0.00028	—	0.00028	0.00025	—	0.00025	—	1.75625	1.75625	0.00007	0.00001	—	1.76228
Architectural Coatings	3.03204	3.03204	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.31804	0.29701	0.23029	2.37427	0.00000	0.00000	0.40855	0.40855	0.00000	0.09576	0.09576	—	384.634	384.634	0.01821	0.01937	0.03719	390.899
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02566	0.02399	0.01689	0.19522	0.00000	0.00000	0.03195	0.03195	0.00000	0.00748	0.00748	—	31.6923	31.6923	0.00220	0.00154	0.04910	32.2549
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00468	0.00438	0.00308	0.03563	0.00000	0.00000	0.00583	0.00583	0.00000	0.00137	0.00137	—	5.24702	5.24702	0.00036	0.00025	0.00813	5.34017
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.12. Architectural Coating (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13715	0.11335	0.83116	1.12539	0.00173	0.01905	—	0.01905	0.01752	—	0.01752	—	133.513	133.513	0.00542	0.00108	—	133.971
Architectural Coatings	209.106	209.106	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.01090	0.00901	0.06604	0.08941	0.00014	0.00151	—	0.00151	0.00139	—	0.00139	—	10.6079	10.6079	0.00043	0.00009	—	10.6443
Architectural Coatings	16.6139	16.6139	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00199	0.00164	0.01205	0.01632	0.00003	0.00028	—	0.00028	0.00025	—	0.00025	—	1.75625	1.75625	0.00007	0.00001	—	1.76228
Architectural Coatings	3.03204	3.03204	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.31804	0.29701	0.23029	2.37427	0.00000	0.00000	0.40855	0.40855	0.00000	0.09576	0.09576	—	384.634	384.634	0.01821	0.01937	0.03719	390.899
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02566	0.02399	0.01689	0.19522	0.00000	0.00000	0.03195	0.03195	0.00000	0.00748	0.00748	—	31.6923	31.6923	0.00220	0.00154	0.04910	32.2549
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.00468	0.00438	0.00308	0.03563	0.00000	0.00000	0.00583	0.00583	0.00000	0.00137	0.00137	—	5.24702	5.24702	0.00036	0.00025	0.00813	5.34017
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	10.4482	9.85111	6.27178	65.6732	0.11911	0.08150	10.6948	10.7763	0.07598	2.70854	2.78452	—	12,212.2	12,212.2	0.69968	0.63258	38.3583	12,456.5
Apartments Low Rise	11.4099	10.7578	6.84906	71.7179	0.13007	0.08901	11.6791	11.7681	0.08298	2.95784	3.04081	—	13,336.2	13,336.2	0.76408	0.69080	41.8889	13,603.1
Total	21.8581	20.6089	13.1208	137.391	0.24918	0.17051	22.3739	22.5444	0.15896	5.66638	5.82533	—	25,548.4	25,548.4	1.46376	1.32338	80.2471	26,059.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	9.16143	8.51543	7.31162	56.3010	0.10735	0.08163	10.6948	10.7764	0.07611	2.70854	2.78464	—	11,023.1	11,023.1	0.82774	0.68942	0.99447	11,250.2
Apartments Low Rise	10.0047	9.29921	7.98461	61.4831	0.11723	0.08915	11.6791	11.7683	0.08311	2.95784	3.04095	—	12,037.7	12,037.7	0.90392	0.75287	1.08601	12,285.7
Total	19.1661	17.8146	15.2962	117.784	0.22459	0.17078	22.3739	22.5447	0.15922	5.66638	5.82559	—	23,060.8	23,060.8	1.73166	1.44229	2.08048	23,535.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	1.66763	1.55754	1.20959	10.0074	0.01975	0.01455	1.87825	1.89281	0.01357	0.47578	0.48935	—	1,839.18	1,839.18	0.12316	0.10657	2.68096	1,876.70
Apartments Low Rise	1.66785	1.55775	1.20975	10.0087	0.01976	0.01455	1.87850	1.89306	0.01357	0.47584	0.48941	—	1,839.42	1,839.42	0.12317	0.10658	2.68132	1,876.94
Total	3.33548	3.11529	2.41933	20.0161	0.03951	0.02911	3.75675	3.78586	0.02714	0.95163	0.97876	—	3,678.60	3,678.60	0.24633	0.21316	5.36228	3,753.64

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	10.4482	9.85111	6.27178	65.6732	0.11911	0.08150	10.6948	10.7763	0.07598	2.70854	2.78452	—	12,212.2	12,212.2	0.69968	0.63258	38.3583	12,456.5
Apartments Low Rise	11.4099	10.7578	6.84906	71.7179	0.13007	0.08901	11.6791	11.7681	0.08298	2.95784	3.04081	—	13,336.2	13,336.2	0.76408	0.69080	41.8889	13,603.1
Total	21.8581	20.6089	13.1208	137.391	0.24918	0.17051	22.3739	22.5444	0.15896	5.66638	5.82533	—	25,548.4	25,548.4	1.46376	1.32338	80.2471	26,059.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	9.16143	8.51543	7.31162	56.3010	0.10735	0.08163	10.6948	10.7764	0.07611	2.70854	2.78464	—	11,023.1	11,023.1	0.82774	0.68942	0.99447	11,250.2
Apartments Low Rise	10.0047	9.29921	7.98461	61.4831	0.11723	0.08915	11.6791	11.7683	0.08311	2.95784	3.04095	—	12,037.7	12,037.7	0.90392	0.75287	1.08601	12,285.7
Total	19.1661	17.8146	15.2962	117.784	0.22459	0.17078	22.3739	22.5447	0.15922	5.66638	5.82559	—	23,060.8	23,060.8	1.73166	1.44229	2.08048	23,535.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	1.66763	1.55754	1.20959	10.0074	0.01975	0.01455	1.87825	1.89281	0.01357	0.47578	0.48935	—	1,839.18	1,839.18	0.12316	0.10657	2.68096	1,876.70
Apartments Low Rise	1.66785	1.55775	1.20975	10.0087	0.01976	0.01455	1.87850	1.89306	0.01357	0.47584	0.48941	—	1,839.42	1,839.42	0.12317	0.10658	2.68132	1,876.94
Total	3.33548	3.11529	2.41933	20.0161	0.03951	0.02911	3.75675	3.78586	0.02714	0.95163	0.97876	—	3,678.60	3,678.60	0.24633	0.21316	5.36228	3,753.64

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	3,232.97	3,232.97	0.23541	0.02853	—	3,247.36
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	2,146.51	2,146.51	0.15630	0.01894	—	2,156.06
Total	—	—	—	—	—	—	—	—	—	—	—	—	5,379.48	5,379.48	0.39170	0.04748	—	5,403.42
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	3,232.97	3,232.97	0.23541	0.02853	—	3,247.36
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	2,146.51	2,146.51	0.15630	0.01894	—	2,156.06
Total	—	—	—	—	—	—	—	—	—	—	—	—	5,379.48	5,379.48	0.39170	0.04748	—	5,403.42
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	535.256	535.256	0.03897	0.00472	—	537.638
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	355.379	355.379	0.02588	0.00314	—	356.960
Total	—	—	—	—	—	—	—	—	—	—	—	—	890.634	890.634	0.06485	0.00786	—	894.598

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	2,967.39	2,967.39	0.21607	0.02619	—	2,980.60
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	1,811.13	1,811.13	0.13188	0.01598	—	1,819.19
Total	—	—	—	—	—	—	—	—	—	—	—	—	4,778.52	4,778.52	0.34794	0.04218	—	4,799.79
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	2,967.39	2,967.39	0.21607	0.02619	—	2,980.60
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	1,811.13	1,811.13	0.13188	0.01598	—	1,819.19
Total	—	—	—	—	—	—	—	—	—	—	—	—	4,778.52	4,778.52	0.34794	0.04218	—	4,799.79
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	491.286	491.286	0.03577	0.00434	—	493.472
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	299.854	299.854	0.02183	0.00265	—	301.188
Total	—	—	—	—	—	—	—	—	—	—	—	—	791.139	791.139	0.05761	0.00698	—	794.660

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.31608	0.15804	2.70101	1.14937	0.01724	0.21838	—	0.21838	0.21838	—	0.21838	—	3,428.46	3,428.46	0.30342	0.00646	—	3,437.97
Apartments Low Rise	0.19944	0.09972	1.70428	0.72523	0.01088	0.13779	—	0.13779	0.13779	—	0.13779	—	2,163.29	2,163.29	0.19145	0.00407	—	2,169.29
Total	0.51551	0.25776	4.40529	1.87459	0.02812	0.35617	—	0.35617	0.35617	—	0.35617	—	5,591.75	5,591.75	0.49487	0.01053	—	5,607.26
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.31608	0.15804	2.70101	1.14937	0.01724	0.21838	—	0.21838	0.21838	—	0.21838	—	3,428.46	3,428.46	0.30342	0.00646	—	3,437.97
Apartments Low Rise	0.19944	0.09972	1.70428	0.72523	0.01088	0.13779	—	0.13779	0.13779	—	0.13779	—	2,163.29	2,163.29	0.19145	0.00407	—	2,169.29
Total	0.51551	0.25776	4.40529	1.87459	0.02812	0.35617	—	0.35617	0.35617	—	0.35617	—	5,591.75	5,591.75	0.49487	0.01053	—	5,607.26
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	0.05768	0.02884	0.49293	0.20976	0.00315	0.03985	—	0.03985	0.03985	—	0.03985	—	567.621	567.621	0.05023	0.00107	—	569.196
Apartments Low Rise	0.03640	0.01820	0.31103	0.13235	0.00199	0.02515	—	0.02515	0.02515	—	0.02515	—	358.157	358.157	0.03170	0.00067	—	359.150
Total	0.09408	0.04704	0.80397	0.34211	0.00513	0.06500	—	0.06500	0.06500	—	0.06500	—	925.778	925.778	0.08193	0.00174	—	928.346

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.31608	0.15804	2.70101	1.14937	0.01724	0.21838	—	0.21838	0.21838	—	0.21838	—	3,428.46	3,428.46	0.30342	0.00646	—	3,437.97
Apartments Low Rise	0.19944	0.09972	1.70428	0.72523	0.01088	0.13779	—	0.13779	0.13779	—	0.13779	—	2,163.29	2,163.29	0.19145	0.00407	—	2,169.29
Total	0.51551	0.25776	4.40529	1.87459	0.02812	0.35617	—	0.35617	0.35617	—	0.35617	—	5,591.75	5,591.75	0.49487	0.01053	—	5,607.26
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.31608	0.15804	2.70101	1.14937	0.01724	0.21838	—	0.21838	0.21838	—	0.21838	—	3,428.46	3,428.46	0.30342	0.00646	—	3,437.97
Apartments Low Rise	0.19944	0.09972	1.70428	0.72523	0.01088	0.13779	—	0.13779	0.13779	—	0.13779	—	2,163.29	2,163.29	0.19145	0.00407	—	2,169.29
Total	0.51551	0.25776	4.40529	1.87459	0.02812	0.35617	—	0.35617	0.35617	—	0.35617	—	5,591.75	5,591.75	0.49487	0.01053	—	5,607.26
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	0.05768	0.02884	0.49293	0.20976	0.00315	0.03985	—	0.03985	0.03985	—	0.03985	—	567.621	567.621	0.05023	0.00107	—	569.196
Apartments Low Rise	0.03640	0.01820	0.31103	0.13235	0.00199	0.02515	—	0.02515	0.02515	—	0.02515	—	358.157	358.157	0.03170	0.00067	—	359.150
Total	0.09408	0.04704	0.80397	0.34211	0.00513	0.06500	—	0.06500	0.06500	—	0.06500	—	925.778	925.778	0.08193	0.00174	—	928.346

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Consumer Products	20.7334	20.7334	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	1.66139	1.66139	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	3.51211	3.32650	0.36203	37.9242	0.00164	0.01801	—	0.01801	0.01367	—	0.01367	—	101.327	101.327	0.00424	0.00084	—	101.684
Total	25.9069	25.7213	0.36203	37.9242	0.00164	0.01801	—	0.01801	0.01367	—	0.01367	0.00000	101.327	101.327	0.00424	0.00084	—	101.684
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000

Consumer	20.7334	20.7334	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	1.66139	1.66139	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	22.3948	22.3948	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Consumer Products	3.78384	3.78384	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.30320	0.30320	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.31609	0.29938	0.03258	3.41318	0.00015	0.00162	—	0.00162	0.00123	—	0.00123	—	8.27302	8.27302	0.00035	0.00007	—	8.30213
Total	4.40314	4.38643	0.03258	3.41318	0.00015	0.00162	—	0.00162	0.00123	—	0.00123	0.00000	8.27302	8.27302	0.00035	0.00007	—	8.30213

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Consumer Products	20.7334	20.7334	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural	1.66139	1.66139	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	3.51211	3.32650	0.36203	37.9242	0.00164	0.01801	—	0.01801	0.01367	—	0.01367	—	101.327	101.327	0.00424	0.00084	—	101.684
Total	25.9069	25.7213	0.36203	37.9242	0.00164	0.01801	—	0.01801	0.01367	—	0.01367	0.00000	101.327	101.327	0.00424	0.00084	—	101.684
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Consumer Products	20.7334	20.7334	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	1.66139	1.66139	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	22.3948	22.3948	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
Consumer Products	3.78384	3.78384	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.30320	0.30320	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.31609	0.29938	0.03258	3.41318	0.00015	0.00162	—	0.00162	0.00123	—	0.00123	—	8.27302	8.27302	0.00035	0.00007	—	8.30213
Total	4.40314	4.38643	0.03258	3.41318	0.00015	0.00162	—	0.00162	0.00123	—	0.00123	0.00000	8.27302	8.27302	0.00035	0.00007	—	8.30213

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	23.8971	242.874	266.771	2.46806	0.06036	—	346.461
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	30.5850	78.0660	108.651	3.14183	0.07520	—	209.607
Total	—	—	—	—	—	—	—	—	—	—	—	54.4821	320.940	375.422	5.60989	0.13557	—	556.068
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	23.8971	242.874	266.771	2.46806	0.06036	—	346.461
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	30.5850	78.0660	108.651	3.14183	0.07520	—	209.607
Total	—	—	—	—	—	—	—	—	—	—	—	54.4821	320.940	375.422	5.60989	0.13557	—	556.068
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	3.95644	40.2105	44.1670	0.40862	0.00999	—	57.3605
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	5.06370	12.9247	17.9884	0.52017	0.01245	—	34.7029
Total	—	—	—	—	—	—	—	—	—	—	—	9.02014	53.1352	62.1554	0.92878	0.02244	—	92.0634

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	23.8971	242.874	266.771	2.46806	0.06036	—	346.461
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	30.5850	78.0660	108.651	3.14183	0.07520	—	209.607
Total	—	—	—	—	—	—	—	—	—	—	—	54.4821	320.940	375.422	5.60989	0.13557	—	556.068
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	23.8971	242.874	266.771	2.46806	0.06036	—	346.461
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	30.5850	78.0660	108.651	3.14183	0.07520	—	209.607
Total	—	—	—	—	—	—	—	—	—	—	—	54.4821	320.940	375.422	5.60989	0.13557	—	556.068
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	3.95644	40.2105	44.1670	0.40862	0.00999	—	57.3605
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	5.06370	12.9247	17.9884	0.52017	0.01245	—	34.7029
Total	—	—	—	—	—	—	—	—	—	—	—	9.02014	53.1352	62.1554	0.92878	0.02244	—	92.0634

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	159.254	0.00000	159.254	15.9168	0.00000	—	557.175
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	149.503	0.00000	149.503	14.9423	0.00000	—	523.061
Total	—	—	—	—	—	—	—	—	—	—	—	308.757	0.00000	308.757	30.8592	0.00000	—	1,080.24
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	159.254	0.00000	159.254	15.9168	0.00000	—	557.175
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	149.503	0.00000	149.503	14.9423	0.00000	—	523.061
Total	—	—	—	—	—	—	—	—	—	—	—	308.757	0.00000	308.757	30.8592	0.00000	—	1,080.24
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	26.3663	0.00000	26.3663	2.63521	0.00000	—	92.2466
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	24.7520	0.00000	24.7520	2.47387	0.00000	—	86.5988
Total	—	—	—	—	—	—	—	—	—	—	—	51.1182	0.00000	51.1182	5.10908	0.00000	—	178.845

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	159.254	0.00000	159.254	15.9168	0.00000	—	557.175
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	149.503	0.00000	149.503	14.9423	0.00000	—	523.061
Total	—	—	—	—	—	—	—	—	—	—	—	308.757	0.00000	308.757	30.8592	0.00000	—	1,080.24
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	159.254	0.00000	159.254	15.9168	0.00000	—	557.175
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	149.503	0.00000	149.503	14.9423	0.00000	—	523.061
Total	—	—	—	—	—	—	—	—	—	—	—	308.757	0.00000	308.757	30.8592	0.00000	—	1,080.24
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	26.3663	0.00000	26.3663	2.63521	0.00000	—	92.2466
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	24.7520	0.00000	24.7520	2.47387	0.00000	—	86.5988
Total	—	—	—	—	—	—	—	—	—	—	—	51.1182	0.00000	51.1182	5.10908	0.00000	—	178.845

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.09201	4.09201
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.84690	2.84690
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.93891	6.93891
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.09201	4.09201
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.84690	2.84690
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.93891	6.93891
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.67748	0.67748
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.47134	0.47134
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.14882	1.14882

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.09201	4.09201
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.84690	2.84690
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.93891	6.93891
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.09201	4.09201
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.84690	2.84690
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.93891	6.93891
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.67748	0.67748
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.47134	0.47134
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.14882	1.14882

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipm Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/1/2026	1/22/2026	5.00000	16.0000	—
Grading	Grading	1/23/2026	3/19/2026	5.00000	40.0000	—
Building Construction	Building Construction	3/20/2026	10/8/2027	5.00000	406.000	—
Paving	Paving	10/09/2027	11/18/2027	5.00000	29.0000	—
Architectural Coating	Architectural Coating	11/19/2027	12/29/2027	5.00000	29.0000	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00000	8.00000	367.000	0.40000

Site Preparation	Tractors/Loaders/Back	Diesel	Average	4.00000	8.00000	84.0000	0.37000
Grading	Excavators	Diesel	Average	2.00000	8.00000	36.0000	0.38000
Grading	Graders	Diesel	Average	1.000000	8.00000	148.000	0.41000
Grading	Rubber Tired Dozers	Diesel	Average	1.000000	8.00000	367.000	0.40000
Grading	Scrapers	Diesel	Average	2.00000	8.00000	423.000	0.48000
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00000	8.00000	84.0000	0.37000
Building Construction	Cranes	Diesel	Average	1.000000	7.00000	367.000	0.29000
Building Construction	Forklifts	Diesel	Average	3.00000	8.00000	82.0000	0.20000
Building Construction	Generator Sets	Diesel	Average	1.000000	8.00000	14.0000	0.74000
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00000	7.00000	84.0000	0.37000
Building Construction	Welders	Diesel	Average	1.000000	8.00000	46.0000	0.45000
Paving	Pavers	Diesel	Average	2.00000	8.00000	81.0000	0.42000
Paving	Paving Equipment	Diesel	Average	2.00000	8.00000	89.0000	0.36000
Paving	Rollers	Diesel	Average	2.00000	8.00000	36.0000	0.38000
Architectural Coating	Air Compressors	Diesel	Average	1.000000	6.00000	37.0000	0.48000

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00000	8.00000	367.000	0.40000
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00000	8.00000	84.0000	0.37000
Grading	Excavators	Diesel	Average	2.00000	8.00000	36.0000	0.38000
Grading	Graders	Diesel	Average	1.000000	8.00000	148.000	0.41000
Grading	Rubber Tired Dozers	Diesel	Average	1.000000	8.00000	367.000	0.40000
Grading	Scrapers	Diesel	Average	2.00000	8.00000	423.000	0.48000
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00000	8.00000	84.0000	0.37000

Building Construction	Cranes	Diesel	Average	1.000000	7.00000	367.000	0.29000
Building Construction	Forklifts	Diesel	Average	3.00000	8.00000	82.0000	0.20000
Building Construction	Generator Sets	Diesel	Average	1.000000	8.00000	14.0000	0.74000
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00000	7.00000	84.0000	0.37000
Building Construction	Welders	Diesel	Average	1.000000	8.00000	46.0000	0.45000
Paving	Pavers	Diesel	Average	2.00000	8.00000	81.0000	0.42000
Paving	Paving Equipment	Diesel	Average	2.00000	8.00000	89.0000	0.36000
Paving	Rollers	Diesel	Average	2.00000	8.00000	36.0000	0.38000
Architectural Coating	Air Compressors	Diesel	Average	1.000000	6.00000	37.0000	0.48000

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	Worker	17.5000	7.70000	LDA,LDT1,LDT2
Site Preparation	Vendor	—	6.80000	HHDT,MHDT
Site Preparation	Hauling	0.00000	20.0000	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	Worker	20.0000	7.70000	LDA,LDT1,LDT2
Grading	Vendor	—	6.80000	HHDT,MHDT
Grading	Hauling	0.00000	20.0000	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	Worker	375.480	7.70000	LDA,LDT1,LDT2
Building Construction	Vendor	71.4092	6.80000	HHDT,MHDT
Building Construction	Hauling	0.00000	20.0000	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	Worker	15.0000	7.70000	LDA,LDT1,LDT2
Paving	Vendor	—	6.80000	HHDT,MHDT

Paving	Hauling	0.00000	20.0000	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	Worker	75.0960	7.70000	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	6.80000	HHDT,MHDT
Architectural Coating	Hauling	0.00000	20.0000	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	Worker	17.5000	7.70000	LDA,LDT1,LDT2
Site Preparation	Vendor	—	6.80000	HHDT,MHDT
Site Preparation	Hauling	0.00000	20.0000	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	Worker	20.0000	7.70000	LDA,LDT1,LDT2
Grading	Vendor	—	6.80000	HHDT,MHDT
Grading	Hauling	0.00000	20.0000	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	Worker	375.480	7.70000	LDA,LDT1,LDT2
Building Construction	Vendor	71.4092	6.80000	HHDT,MHDT
Building Construction	Hauling	0.00000	20.0000	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	Worker	15.0000	7.70000	LDA,LDT1,LDT2
Paving	Vendor	—	6.80000	HHDT,MHDT
Paving	Hauling	0.00000	20.0000	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	Worker	75.0960	7.70000	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	6.80000	HHDT,MHDT
Architectural Coating	Hauling	0.00000	20.0000	HHDT

Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	1,961,921	653,974	0.00000	0.00000	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	24.0000	0.00000	0.00000
Grading	—	—	120.000	0.00000	0.00000
Paving	0.00000	0.00000	0.00000	0.00000	3.22865

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%

5.7. Construction Paving

Phase Name	Land Use	Area Paved (acres)	% Asphalt
Paving	Single Family Housing	3.22865	0%
Paving	Apartments Low Rise	—	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00000	453.209	0.03300	0.00400
2027	0.00000	453.209	0.03300	0.00400

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	2,765.92	2,795.22	2,505.15	997,491	15,023.2	15,182.4	13,606.9	5,417,925
Apartments Low Rise	2,745.00	3,052.50	2,355.00	997,623	14,909.6	16,579.8	12,791.3	5,418,642

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	2,765.92	2,795.22	2,505.15	997,491	15,023.2	15,182.4	13,606.9	5,417,925
Apartments Low Rise	2,745.00	3,052.50	2,355.00	997,623	14,909.6	16,579.8	12,791.3	5,418,642

5.10. Operational Area Sources

5.10.1. Hearths

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Single Family Housing	Wood Fireplaces	0	0
Single Family Housing	Gas Fireplaces	0	0
Single Family Housing	Propane Fireplaces	0	0
Single Family Housing	Electric Fireplaces	0	0
Single Family Housing	No Fireplaces	293	293
Single Family Housing	Conventional Wood Stoves	0	0
Single Family Housing	Catalytic Wood Stoves	0	0
Single Family Housing	Non-Catalytic Wood Stoves	0	0
Single Family Housing	Pellet Wood Stoves	0	0
Apartments Low Rise	Wood Fireplaces	0	0
Apartments Low Rise	Gas Fireplaces	0	0
Apartments Low Rise	Propane Fireplaces	0	0
Apartments Low Rise	Electric Fireplaces	0	0
Apartments Low Rise	No Fireplaces	370	370
Apartments Low Rise	Conventional Wood Stoves	0	0
Apartments Low Rise	Catalytic Wood Stoves	0	0
Apartments Low Rise	Non-Catalytic Wood Stoves	0	0
Apartments Low Rise	Pellet Wood Stoves	0	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
1,961,921	653,974	0.00000	0.00000	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00000

Summer Days	day/yr	180.000

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00000
Summer Days	day/yr	180.000

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	2,603,733	453.209	0.0330	0.0040	10,697,723
Apartments Low Rise	1,728,727	453.209	0.0330	0.0040	6,750,037

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	2,389,843	453.209	0.0330	0.0040	10,697,723
Apartments Low Rise	1,458,627	453.209	0.0330	0.0040	6,750,037

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	12,470,856	60,535,089
Apartments Low Rise	15,960,994	0.00000

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	12,470,856	60,535,089
Apartments Low Rise	15,960,994	0.00000

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	295.495	0.00000
Apartments Low Rise	277.403	0.00000

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	295.495	0.00000
Apartments Low Rise	277.403	0.00000

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088.00	0.00225	2.50000	2.50000	10.00000
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430.00	0.11538	0.60000	0.00000	1.000000

Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088.00	0.00225	2.50000	2.50000	10.00000
Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430.00	0.11538	0.60000	0.00000	1.000000

5.14.2. Mitigated

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088.00	0.00225	2.50000	2.50000	10.00000
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430.00	0.11538	0.60000	0.00000	1.000000
Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088.00	0.00225	2.50000	2.50000	10.00000
Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430.00	0.11538	0.60000	0.00000	1.000000

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.15.2. Mitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	35.8700	annual days of extreme heat
Extreme Precipitation	1.30000	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00000	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	5	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	5	1	1	4
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	91.0516

AQ-PM	97.7847
AQ-DPM	22.4642
Drinking Water	69.1520
Lead Risk Housing	12.9301
Pesticides	79.1034
Toxic Releases	68.6547
Traffic	19.1250
Effect Indicators	—
CleanUp Sites	0.00000
Groundwater	15.1420
Haz Waste Facilities/Generators	26.6711
Impaired Water Bodies	12.4528
Solid Waste	59.1753
Sensitive Population	—
Asthma	41.4506
Cardio-vascular	71.3485
Low Birth Weights	11.9451
Socioeconomic Factor Indicators	—
Education	51.2275
Housing	35.2725
Linguistic	33.9423
Poverty	42.6131
Unemployment	14.3935

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—

Above Poverty	50.64801745
Employed	49.30065443
Median HI	36.5199538
Education	—
Bachelor's or higher	43.17977672
High school enrollment	15.95021173
Preschool enrollment	41.02399589
Transportation	—
Auto Access	64.27563198
Active commuting	12.5882202
Social	—
2-parent households	51.0714744
Voting	61.59373797
Neighborhood	—
Alcohol availability	67.48363916
Park access	34.55665341
Retail density	6.813807263
Supermarket access	5.41511613
Tree canopy	44.98909278
Housing	—
Homeownership	52.53432568
Housing habitability	58.27024253
Low-inc homeowner severe housing cost burden	58.3472347
Low-inc renter severe housing cost burden	52.59848582
Uncrowded housing	32.9013217
Health Outcomes	—
Insured adults	57.69280123
Arthritis	49.4

Asthma ER Admissions	48.9
High Blood Pressure	56.0
Cancer (excluding skin)	36.4
Asthma	46.1
Coronary Heart Disease	61.0
Chronic Obstructive Pulmonary Disease	50.7
Diagnosed Diabetes	73.9
Life Expectancy at Birth	52.2
Cognitively Disabled	30.7
Physically Disabled	24.6
Heart Attack ER Admissions	21.4
Mental Health Not Good	51.7
Chronic Kidney Disease	64.9
Obesity	36.0
Pedestrian Injuries	79.3
Physical Health Not Good	59.3
Stroke	70.4
Health Risk Behaviors	—
Binge Drinking	16.3
Current Smoker	57.8
No Leisure Time for Physical Activity	62.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	45.9
Elderly	61.9
English Speaking	54.3
Foreign-born	18.0

Outdoor Workers	16.9
Climate Change Adaptive Capacity	—
Impervious Surface Cover	76.8
Traffic Density	26.4
Traffic Access	0.0
Other Indices	—
Hardship	60.8
Other Decision Support	—
2016 Voting	56.1

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	43.0000
Healthy Places Index Score for Project Location (b)	41.0000
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Land Use	Acreage based on actual project site
Construction: Construction Phases	Estimated project construction schedule
Operations: Fleet Mix	SJVPCD Approved Residential Fleet Mix for Year 2026
Operations: Hearths	No woodstoves or fireplaces

8.3. Land Use

Model Parameter	Units	Default Value	New Value
Lot Area	acre	95.1299	53.2000
Lot Area	acre	23.4375	21.8000
Landscape Area	sq. ft	—	0.00000

8.4. Construction

8.4.1. Construction Phases

Phase Type	Phase Name	Model Parameter	Default Value	New Value
Site Preparation	Site Preparation	Start Date	5/22/2026	1/1/2026
Site Preparation	Site Preparation	End Date	8/14/2026	1/22/2026
Site Preparation	Site Preparation	Work Days per Phase	60.0000	16.0000
Grading	Grading	Start Date	8/15/2026	1/23/2026
Grading	Grading	End Date	3/20/2027	3/19/2026
Grading	Grading	Work Days per Phase	155.000	40.0000
Building Construction	Building Construction	Start Date	3/21/2027	3/20/2026
Building Construction	Building Construction	End Date	2/27/2033	10/8/2027
Building Construction	Building Construction	Work Days per Phase	1,550.00	406.000
Paving	Paving	Start Date	2/28/2033	10/09/2027

Paving	Paving	End Date	8/1/2033	11/18/2027
Paving	Paving	Work Days per Phase	110.000	29.0000
Architectural Coating	Architectural Coating	Start Date	8/2/2033	11/19/2027
Architectural Coating	Architectural Coating	End Date	1/3/2034	12/29/2027
Architectural Coating	Architectural Coating	Work Days per Phase	110.000	29.0000

8.5. Operations

8.5.1. Mobile Sources

8.5.1.2. Fleet Mix

Land Use	Season	Model Parameter	Units	Default Value	New Value
Single Family Housing	A	Heavy-Heavy-Duty Trucks	%	2%	2%
Single Family Housing	A	Passenger Cars	%	46%	52%
Single Family Housing	A	Light-Duty Trucks 1	%	4%	21%
Single Family Housing	A	Light-Duty Trucks 2	%	20%	17%
Single Family Housing	A	Light Heavy-Duty Trucks 1	%	4%	< 0.5%
Single Family Housing	A	Light Heavy-Duty Trucks 2	%	1%	< 0.5%
Single Family Housing	A	Motorcycles	%	2%	< 0.5%
Single Family Housing	A	Medium-Duty Trucks	%	20%	6%
Single Family Housing	A	Motor Homes	%	< 0.5%	< 0.5%
Single Family Housing	A	Medium-Heavy-Duty Trucks	%	1%	1%
Single Family Housing	A	Other Buses	%	< 0.5%	0%
Single Family Housing	A	School Buses	%	< 0.5%	< 0.5%
Single Family Housing	A	Urban Buses	%	< 0.5%	< 0.5%
Single Family Housing	S	Heavy-Heavy-Duty Trucks	%	2%	2%
Single Family Housing	S	Passenger Cars	%	46%	52%
Single Family Housing	S	Light-Duty Trucks 1	%	4%	21%
Single Family Housing	S	Light-Duty Trucks 2	%	20%	17%

Single Family Housing	S	Light Heavy-Duty Trucks 1	%	4%	< 0.5%
Single Family Housing	S	Light Heavy-Duty Trucks 2	%	1%	< 0.5%
Single Family Housing	S	Motorcycles	%	2%	< 0.5%
Single Family Housing	S	Medium-Duty Trucks	%	20%	6%
Single Family Housing	S	Motor Homes	%	< 0.5%	< 0.5%
Single Family Housing	S	Medium-Heavy-Duty Trucks	%	1%	1%
Single Family Housing	S	Other Buses	%	< 0.5%	0%
Single Family Housing	S	School Buses	%	< 0.5%	< 0.5%
Single Family Housing	S	Urban Buses	%	< 0.5%	< 0.5%
Single Family Housing	W	Heavy-Heavy-Duty Trucks	%	2%	2%
Single Family Housing	W	Passenger Cars	%	46%	52%
Single Family Housing	W	Light-Duty Trucks 1	%	4%	21%
Single Family Housing	W	Light-Duty Trucks 2	%	20%	17%
Single Family Housing	W	Light Heavy-Duty Trucks 1	%	4%	< 0.5%
Single Family Housing	W	Light Heavy-Duty Trucks 2	%	1%	< 0.5%
Single Family Housing	W	Motorcycles	%	2%	< 0.5%
Single Family Housing	W	Medium-Duty Trucks	%	20%	6%
Single Family Housing	W	Motor Homes	%	< 0.5%	< 0.5%
Single Family Housing	W	Medium-Heavy-Duty Trucks	%	1%	1%
Single Family Housing	W	Other Buses	%	< 0.5%	0%
Single Family Housing	W	School Buses	%	< 0.5%	< 0.5%
Single Family Housing	W	Urban Buses	%	< 0.5%	< 0.5%
Apartments Low Rise	A	Heavy-Heavy-Duty Trucks	%	2%	2%
Apartments Low Rise	A	Passenger Cars	%	46%	52%
Apartments Low Rise	A	Light-Duty Trucks 1	%	4%	21%
Apartments Low Rise	A	Light-Duty Trucks 2	%	20%	17%
Apartments Low Rise	A	Light Heavy-Duty Trucks 1	%	4%	< 0.5%
Apartments Low Rise	A	Light Heavy-Duty Trucks 2	%	1%	< 0.5%

Apartments Low Rise	A	Motorcycles	%	2%	< 0.5%
Apartments Low Rise	A	Medium-Duty Trucks	%	20%	6%
Apartments Low Rise	A	Motor Homes	%	< 0.5%	< 0.5%
Apartments Low Rise	A	Medium-Heavy-Duty Trucks	%	1%	1%
Apartments Low Rise	A	Other Buses	%	< 0.5%	0%
Apartments Low Rise	A	School Buses	%	< 0.5%	< 0.5%
Apartments Low Rise	A	Urban Buses	%	< 0.5%	< 0.5%
Apartments Low Rise	S	Heavy-Heavy-Duty Trucks	%	2%	2%
Apartments Low Rise	S	Passenger Cars	%	46%	52%
Apartments Low Rise	S	Light-Duty Trucks 1	%	4%	21%
Apartments Low Rise	S	Light-Duty Trucks 2	%	20%	17%
Apartments Low Rise	S	Light Heavy-Duty Trucks 1	%	4%	< 0.5%
Apartments Low Rise	S	Light Heavy-Duty Trucks 2	%	1%	< 0.5%
Apartments Low Rise	S	Motorcycles	%	2%	< 0.5%
Apartments Low Rise	S	Medium-Duty Trucks	%	20%	6%
Apartments Low Rise	S	Motor Homes	%	< 0.5%	< 0.5%
Apartments Low Rise	S	Medium-Heavy-Duty Trucks	%	1%	1%
Apartments Low Rise	S	Other Buses	%	< 0.5%	0%
Apartments Low Rise	S	School Buses	%	< 0.5%	< 0.5%
Apartments Low Rise	S	Urban Buses	%	< 0.5%	< 0.5%
Apartments Low Rise	W	Heavy-Heavy-Duty Trucks	%	2%	2%
Apartments Low Rise	W	Passenger Cars	%	46%	52%
Apartments Low Rise	W	Light-Duty Trucks 1	%	4%	21%
Apartments Low Rise	W	Light-Duty Trucks 2	%	20%	17%
Apartments Low Rise	W	Light Heavy-Duty Trucks 1	%	4%	< 0.5%
Apartments Low Rise	W	Light Heavy-Duty Trucks 2	%	1%	< 0.5%
Apartments Low Rise	W	Motorcycles	%	2%	< 0.5%
Apartments Low Rise	W	Medium-Duty Trucks	%	20%	6%

Apartments Low Rise	W	Motor Homes	%	< 0.5%	< 0.5%
Apartments Low Rise	W	Medium-Heavy-Duty Trucks	%	1%	1%
Apartments Low Rise	W	Other Buses	%	< 0.5%	0%
Apartments Low Rise	W	School Buses	%	< 0.5%	< 0.5%
Apartments Low Rise	W	Urban Buses	%	< 0.5%	< 0.5%

8.5.2. Area Sources

8.5.2.1. Hearths

Land Use	Model Parameter	Default Value	New Value
Single Family Housing	Gas Fireplaces	147	0
Single Family Housing	No Fireplaces	147	293
Single Family Housing	Catalytic Wood Stoves	15	0
Single Family Housing	Non-Catalytic Wood Stoves	15	0
Apartments Low Rise	Gas Fireplaces	188	0
Apartments Low Rise	No Fireplaces	188	370
Apartments Low Rise	Catalytic Wood Stoves	19	0
Apartments Low Rise	Non-Catalytic Wood Stoves	19	0

APPENDIX B

HEALTH RISK ASSESSMENT MODELING FILES (ELECTRONIC)

APPENDIX C

AMBIENT AIR QUALITY ANALYSIS MODELING FILES (ELECTRONIC)

APPENDIX B
BIOLOGICAL RESOURCE EVALUATION (BRE)

BIOLOGICAL RESOURCE EVALUATION

CITY OF VISALIA

CLEMENT RANCH PROJECT

JUNE 2025

BIOLOGICAL RESOURCE EVALUATION

CLEMENT RANCH PROJECT

Prepared for:

City of Visalia
Community Development Department
315 East Acequia Avenue
Visalia, CA 93291
Contact Person: Brandon Smith, AICP

Phone: (559) 713-4636

Consultant:

5080 California Avenue, Suite 220
Bakersfield, CA 93309
Contact: Jaymie Brauer
Phone: (661) 616-2600

June 2025

Unauthorized use prohibited.
Project #240208

TABLE OF CONTENTS

Table of Contents ..... *i*

Executive Summary *1*

SECTION 1 - Introduction *1-1*

1.1 - Project Location 1-1
1.2 - Project Description 1-1
1.3 - Purpose, Goals, and Objectives for this Report 1-1

SECTION 2 - Methods *2-3*

2.1 - Definition of Biological Study Area 2-3
2.2 - Literature Review and Database Analysis 2-3
2.3 - Reconnaissance-Level Field Surveys 2-5

SECTION 3 - Environmental Setting *3-6*

3.1 - Topography 3-6
3.2 - Climate 3-6
3.3 - Land Use 3-6
3.4 - Soils 3-7
3.5 - Hydrology 3-7
3.6 - General Biological Conditions 3-9

SECTION 4 - Findings *4-9*

4.1 - Sensitive Natural Communities 4-9
4.1.1 - Results of Literature Review and Database Searches 4-9
4.1.2 - Presence of Sensitive Natural Communities 4-10
4.2 - Special-Status Plants 4-10
4.2.1 - Results of Literature Review and Database Searches 4-10
4.2.2 - Presence of Special-Status Plants 4-11
4.3 - Special-Status Wildlife 4-11
4.3.1 - Results of Literature Review and Database Searches 4-11
4.3.2 - Presence of Special-Status Wildlife 4-12
4.3.3 - Nesting Migratory Birds and Raptors 4-17
4.4 - Critical Habitat, Movement Corridors, and Linkages 4-17
4.4.1 - Presence of Critical Habitat 4-17
4.4.2 - Presence of Movement Corridors and Linkages 4-17
4.5 - Wetlands and Other Waters 4-17

SECTION 5 - Potential Project Impacts *5-20*

5.1 - Potential Impacts to Sensitive Vegetation Communities 5-20

5.2 - Potential Impacts to Special-Status Plant Species 5-20
5.3 - Potential Impacts to Special-Status Wildlife Species 5-20
5.4 - Potential Impacts to Nesting Birds and Raptors 5-20

SECTION 6 - Avoidance and Minimization Measures 6-22

SECTION 7 - Summary and Conclusions 7-27

SECTION 8 - References 8-28

Appendices

Appendix A CNDDB, CNPS, and IPaC Database Results
Appendix B Representative Photographs
Appendix C Plants and Wildlife Species Observed On-Site

List of Figures

Figure 1-1 Regional Map 1-1
Figure 1-2 Project Location Map 1-2
Figure 2-1 Biological Study Area 2-4
Figure 4-1 Mapped Critical Habitat in the Project Vicinity 4-19

List of Tables

Table 3-1 Field Survey Personnel and Timing 3-6
Table 4-1 Special-Status Plant Species Occurring in the Region of the BSA 4-10
Table 4-2 Special-Status Wildlife Species Occurring in the Region of the BSA (Source: CNDDB 2025, and USFWS 2025) 4-11

EXECUTIVE SUMMARY

This Biological Resource Evaluation (BRE) report provides the results of a biological survey conducted by QK for the Clement Ranch Project (Project). In order to comply with the California Environmental Quality Act (CEQA) a biological evaluation was conducted to identify the potential for sensitive biological resources to occur on or near the Project site.

The Project site is located northeast of the intersection of South Lovers Lane and East Caldwell Avenue within an area of unincorporated Tulare County, southeast of the City of Visalia (City) and adjacent to the city limits. The proposed project consists of a new residential development.

A review of available literature and agency databases was conducted to obtain information of the occurrences of natural communities, special-status plant and wildlife species known to occur in the vicinity of the Project site. QK conducted a biological reconnaissance survey on June 16th, 2025, to determine the locations and extent of land use, natural vegetation communities, determine the potential for occurrences of special-status plant and wildlife species, and verify the presence of wetlands and State and or federal jurisdictional waters. The Biological Study Area (BSA) includes the Project site and a 250-foot survey buffer surrounding the Project disturbance footprint.

No observations of special-status plant species were documented during the site survey. Diagnostic sign and observations of special-status wildlife species were observed near the Project site. No wetlands or other sensitive biological resources were observed on the Project site; however, two features are near the Project site.

Based on the literature and database search, and the results of the survey, there is a potential of special-status wildlife species to be impacted by construction site activities. American badger (*Taxidea taxus*), San Joaquin kit fox (*Vulpes macrotis mutica*), and Western burrowing owl (*Athene cunicularia*) could potentially reside within the dens and burrows in the BSA near the Project site and Swainson's hawk (*Buteo swainsoni*), could potentially nest in nearby resources (trees, power poles, etc.) near the Project site (within 0.5 miles). There is potential for nesting migratory birds and other raptors species, protected by the Migratory Bird Treaty Species Act, to occur on or near the Project site and surrounding areas.

With the implementation of Best Management Practices and recommended avoidance measures, the Project will likely have limited impacts to special-status species, Swainson's hawk, migratory birds, and raptors. There is expected to be no impact to special-status plant species, sensitive natural communities, wetlands or water features, or any other sensitive biological resources not mentioned above.

SECTION 1 - INTRODUCTION

D.R. Horton (the Applicant) proposes to develop a 75-acre property of various density housing outside the city limits of Visalia. To comply with the California Environmental Quality Act (CEQA), a biological evaluation was conducted to identify the potential for sensitive biological resources to occur on or near the Project site. This Biological Resource Evaluation (BRE) provides the basic biological information needed for the permitting process.

1.1 - Project Location

The Project site is located northeast of the intersection of South Lovers Lane and East Caldwell Avenue in the City of Visalia, Tulare, CA. The Project site is identified by Assessor Parcel Numbers (APN) 127-020-20 and 127-020-21, within Section 3, Township 19, Range 25E, Mount Diablo Base and Meridian (MDB&M).

1.2 - Project Description

The Project proposes to develop a mixed-use residential subdivision (TTM 5606) on an approximately 75-acre site (APNs: 127-020-20 and -21) located on Lovers Lane and north of East Caldwell Avenue in the City of Visalia, California (Project). The two parcels are located outside of the City boundary and will be annexed as part of the Project. The client anticipates multiple phases for this project.

The Project will require approval of a Tentative Subdivision Map, General Plan Amendment (GPA), Annexation, Prezone and a Conditional Use Permit (CUP) to allow for a Planned Unit Development (PUD).

Construction equipment will vary over the course of development and will include the following:

- Roller
- Loaded trucks
- Excavator
- Generator
- Service truck
- Air compressor

Construction of the Project is anticipated to begin in Q4 2024 and is expected to take a maximum of 24 months

1.3 - Purpose, Goals, and Objectives for this Report

This BRE report includes the results of a biological survey and available biological and natural resource database search conducted by QK biologists at the Project site. This report

is consistent with the requirements for an analysis of impacts to biological resources needed of an Initial Study/ Mitigated Negative Declaration following guidelines established by CEQA.

The primary focus of this report is to provide information about the presence of sensitive biological resources on the Project and develop measures to avoid and minimize impacts of the Project on those resources. To accomplish that goal, this BRE provides information on the condition and sensitivity of the sensitive biological resources present and potentially present on and adjacent to the Project site and evaluates Project impacts to those resources. This BRE focuses on providing information and sensitive natural communities, special-status species, wildlife movement corridors, and wetlands and waters by conducting a desktop analysis of site conditions and verifying those findings with an on-site biological survey.

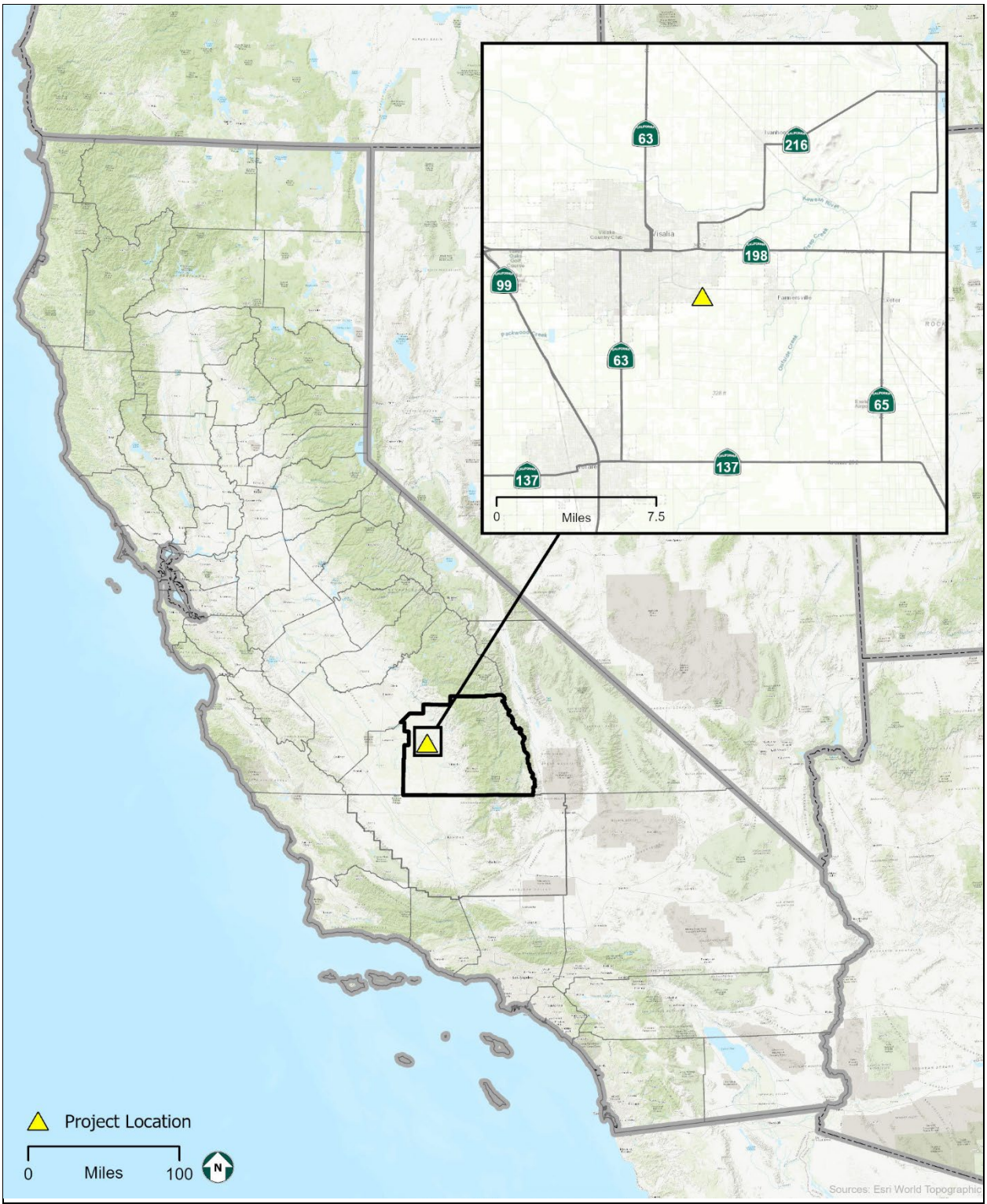


Figure 1-1
Regional Map
Clement Ranch Project,
Tulare County, California

Figure 1-2
Project Location Map
Clement Ranch Project,
Tulare County, California

SECTION 2 - METHODS

2.1 - Definition of Biological Study Area

The Biological Study Area (BSA) includes the Project site and a 250-foot survey buffer surrounding the Project disturbance footprint, where feasible (Figure 2-1).

2.2 - Literature Review and Database Analysis

The following online resources were reviewed for information on special-status biological resources in the Project vicinity:

- California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB; CDFW 2025a).
- CDFW's Biogeographic Information and Observation System (BIOS; CDFW 2025b).
- CDFW's Special Animals List (CDFW 2025c).
- CDFW's California Wildlife Habitat Relationships (CWHR) System (Mayer and Laudenslayer 1988).
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (CNPS 2025).
- United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation System (IPaC; USFWS 2025a).
- USFWS Critical Habitat Mapper (USFWS 2025b).
- USFWS National Wetlands Inventory (NWI; USFWS 2025c).
- USGS National Hydrography Dataset (NHD; USGS 2025).
- Federal Emergency Management Agency (FEMA) flood zone maps (FEMA 2025).
- United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS 2025)
- Current and historical aerial imagery (Google LLC 2025, Esri 2025).

The CNDDB and CNPS queries focused on the *Visalia* USGS 7.5-minute quadrangle in which the Project is located, plus the surrounding eight quadrangles: *Exeter, Cairns Corner, Tulare, Paige, Goshen, Traver, Monson, and Ivanhoe.* To satisfy other standard search criteria, CNDDB records within a 10-mile radius of the Project site were queried separately from the broader database search.

Figure 2-1
Biological Study Area
Clement Ranch Project, Tulare County, California

The CNDDB provides element-specific spatial information on individual documented occurrences of special-status species and sensitive natural vegetation communities. The CNPS database provides similar information, but at a much lower spatial resolution, for additional sensitive plant species tracked by the CNPS. The CDFW Special Animals List and USFWS IPaC provide no spatial data on wildlife occurrences and provide only lists of species potentially present. Wildlife species designated as "Fully Protected" by California Fish and Game Code Sections 5050 (Fully Protected reptiles and amphibians), 3511 (Fully Protected birds), and 4700 (Fully Protected mammals) are also included on the final list of evaluated species. The database search results can be found in Appendix A.

A review of the NWI was completed to identify whether wetlands have previously been documented on or adjacent to the Project site. The NWI, which is operated by the USFWS, is a collection of wetland and riparian maps that depicts graphic representations of the type, size, and location of wetland, deep water, and riparian habitats in the United States. In addition to the NWI, regional hydrologic information from the NHD was obtained from the USGS to evaluate the potential occurrence of blueline streams within or near the Project site.

Soils data were obtained from the USDA NRCS Web Soil Survey, climate information was obtained from the Western Regional Climate Center, and land use information was obtained from available aerial imagery (NRCS 2025; WRCC 2025; Google LLC 2025). Information about flood zones was obtained from the Federal Emergency Management Agency, Department of Homeland Security (FEMA 2025).

The results of the database inquiries were reviewed to extract pertinent information on site conditions and evaluate the potential for sensitive biological resources to occur within or near the proposed Project site. Only those resources with the potential to be present and affected by the Project were included and considered in this document. The potential presence of natural communities and special-status species was based on distributional ranges overlapping the Project site and the presence of habitat and/or primary constituent habitat elements.

2.3 - Reconnaissance-Level Field Surveys

A biological reconnaissance survey of the BSA was conducted by QK Environmental Scientists Mattole Whitaker and Brittney Gummo on June 16, 2025. The survey consisted of meandering pedestrian transects spaced 50 to 100 feet apart throughout the BSA, where accessible. Areas with suitable habitat that could not be accessed, such as private residences or adjacent agricultural fields, were surveyed by use of high-power binoculars.

Tasks completed during the survey included determining and documenting current land use, developing an inventory of plant species, wildlife species, and wildlife sign (e.g., scat, burrows, nests, feathers, tracks, etc.), characterizing vegetation associations and habitat conditions within the BSA, assessing the potential for federal, State-listed and other special-status plant and wildlife species that may occur on and near the Project site based on existing conditions, and assessing the potential for migratory birds and raptors to nest on and near the Project site. In addition, all historical wetland and water features documented by NWI

and NHD were field verified. All spatial data were recorded using Environmental Systems Research Institute (ESRI) Field Maps for ArcGIS software installed on an iPad. Site conditions were documented with representative photographs (Appendix B).

SECTION 3 - ENVIRONMENTAL SETTING

This section identifies the regional and local environmental setting of the Project and describes existing baseline conditions. The environmental setting of the BSA was obtained from various sources of literature, databases, and aerial photographs. Site conditions were verified and updated during the site reconnaissance survey conducted by QK Environmental Scientists (Table 3-1).

Table 3-1
Field Survey Personnel and Timing

Date	Personnel	Time	Weather Conditions	Temperature
06/16/2025	Mattole Whitaker, Brittney Gummo	0940 – 1342	Sunny	77 - 95F

3.1 - Topography

The Project site is on the floor of the San Joaquin Valley west of the Sierra Nevada foothills. The topography on the site is relatively flat, with an elevation range of approximately 330 to 345 feet above mean sea level.

3.2 - Climate

The region in which the Project is located is characterized by a Mediterranean climate of hot summers and wet, mild winters. Average high temperatures range from 56.0°F in January to 97.5°F in July, and it is not uncommon for temperatures to exceed 100°F during the summer (WRCC, 2021). Average low temperatures range from 36.8°F in December to 63.5°F in July. Precipitation occurs primarily as rain, most of which falls between November and April. Precipitation may also occur as dense fog during the winter known as Tule Fog. Rain rarely falls during the summer months.

3.3 - Land Use

Land use surrounding the Project area consist of urban development, railroad tracks, fallow agriculture, orchards, non-native grassland, and barren land. Land use within the Project boundary consists of annual grassland, barren land, remnants of a building foundation, and deciduous orchards. It is bounded by Southern Pacific railroad tracks to the north, Lover Lane to the west, deciduous orchards to the east, and Cameron Creek to the south.

3.4 - Soils

The Project site is underlain by two soil types, Nord fine sandy loam and Grangeville sandy loam (NRCS 2025). These soil series are described by the NRCS and are listed below.

Nord fine sandy loam (0 to 2 percent slopes): The Nord soil series is characterized by very deep and well drained soils (NRCS 2025). This soil series has a negligible to low rate of runoff and moderate permeability; however, in saline-sodic phases the permeability is moderate. They are formed of mixed alluvium from granitic and sedimentary rock. Nord can be found in alluvial fans and flood plains areas. Slopes range between 0 to 2 percent. This soil series can be used for irrigated crops including wheat (*Triticum* sp.), sugar beets (*Beta vulgaris*), corn (*Zea mays*), cotton (*Gossypium* sp.), alfalfa, walnuts (Juglans sp.), peaches and other fruit or nut trees. Natural vegetation that can grow on this soil type includes annual grasses and forbs and valley oak (Quercus lobata). Nord soil types that are found in Tulare County include Nord complex and Nord fine sandy loam. Nord fine sandy loam (0 to 2 percent slopes) is not a hydric soil (NRCS 2025).

Grangeville sandy loam (drained, 0 to 2 percent slopes): The Grangeville soil series is characterized by very deep and somewhat poorly drained soils (NRCS 2025). This soil series has a negligible to very low rate of runoff and moderate rapid permeability; however, in saline-sodic phases the permeability is moderate. They are formed of mixed alluvium from granitic and sedimentary rock. Grangeville soils can be found on alluvial fans and floodplains. Slopes range between 0 to 2 percent. This soil series can be used for irrigated crops including grapes (*Vitaceae* sp), cotton (*Gossypium* sp.), alfalfa, truck crops, or general irrigated pasture. Natural vegetation that can grow on this soil type includes annual grasses and forbs and valley oak (Quercus lobata). Nord soil types that are found in Kings County include Nord complex and Nord fine sandy loam. Grangeville sandy loam (drained, 0 to 2 percent slopes) is a hydric soil (NRCS 2025).

3.5 - Hydrology

There are two water features within the BSA, as defined by the NHD and NWI and they were confirmed present during the survey (USGS 2025; USFWS 2025c). These water features, Tulare Irrigation Canal and Cameron Creek, are classified as a riverine intermittent streambed with seasonal flooding and excavated wetland (USGS 2025; USFWS 2025c). The Tulare Irrigation Canal bisects the Project site in the northwest corner, and Cameron Creek bounds the site along the southerly boundary.

According to FEMA, the BSA resides within a primarily 0.2% annual chance flood zone area, with a small portion along the southwest being in a 1% annual chance floodzone area (Figure 3-1).

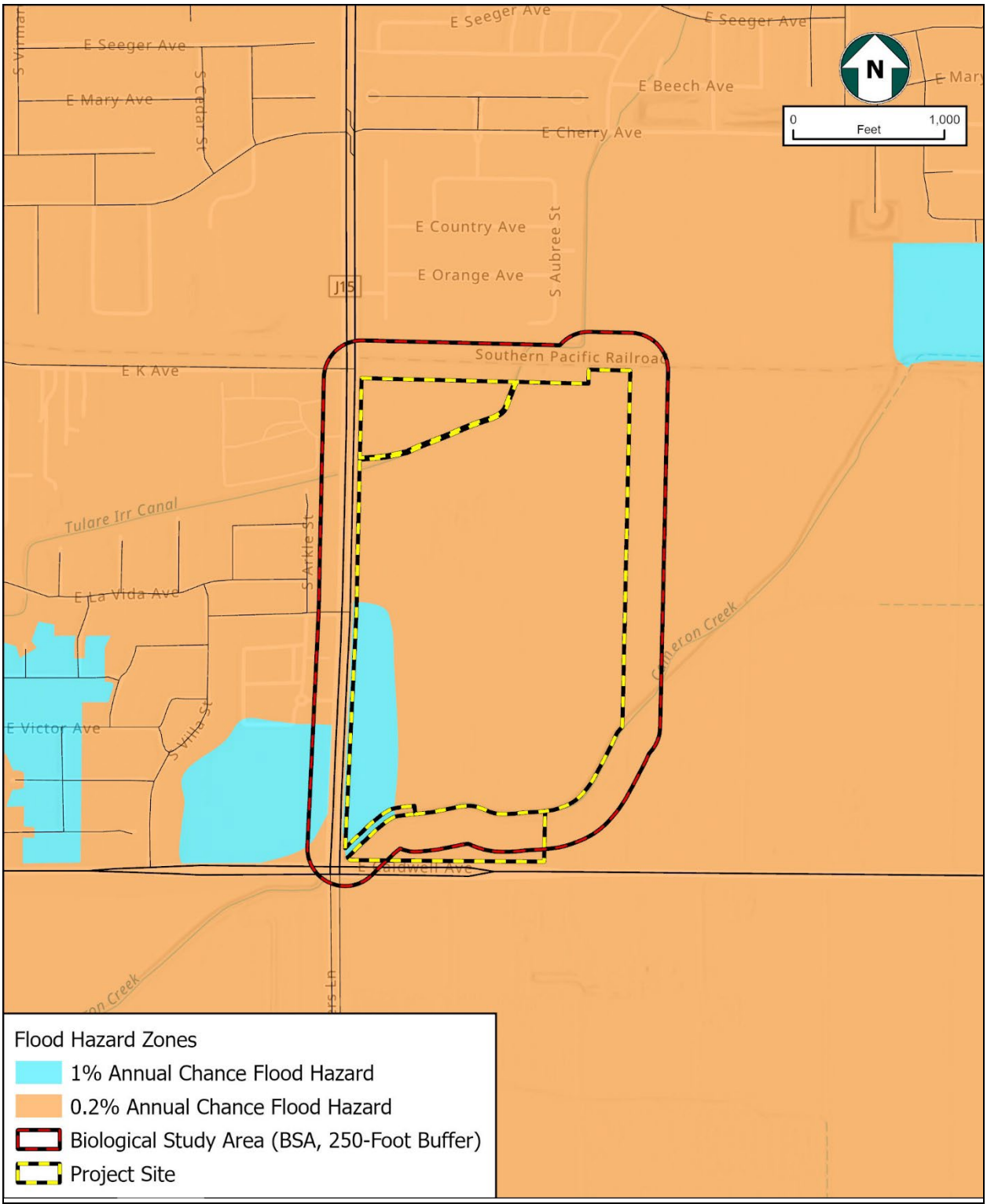


Figure 3-1
FEMA Flood Zone Map
Clement Ranch Project, Tulare County, California

3.6 - General Biological Conditions

The Project site includes two separate parcels with over half of it being a recently mowed, irrigated agricultural field containing oats and a peach orchard.

There were no sensitive vegetative communities or special-status plant species observed. The Project site consists of an irrigated agricultural field that was recently mowed containing grain. The urban development surrounding the Project site contains various ornamental shrubs and trees including pines (*Pinus* sp.), sycamore (*Platanus* sp.) and olive (*Olea* sp.) within the BSA.

There are several large trees within the BSA that could support nesting birds and/or raptors, but no nests were observed during the site visit. Smaller ornamental trees associated with the private residences surrounding the Project site could support nesting passerine bird species. Common migratory bird species observed during the survey included mourning dove (*Zenaida macroura*), and common raven (*Corvus corax*). A Swainson's hawk (Buteo Swainsonii) pair was seen soaring within the BSA before flying out of view. A red-tailed hawk (*Buteo jamaicensis*) was also observed soaring within the BSA.

Small mammal burrows were present within the BSA and Project site in the orchards, dirt berms along the mowed agricultural field, and both banks of Tulare Irrigation Canal and Cameron Creek. Dens suitable for special-status species such as San Joaquin kit fox (*Vulpes macrotis*), American badger (*Taxidea taxus*), and western burrowing owl (*Athene cunicularia hypugaea*) were present within the BSA along both banks of Tulare Irrigation Canal and a dirt berm adjacent to an orchard in the northwest of the Project site. Sign (den, burrow, scat, tracks, etc.) of domestic dog (*Canis familiaris*), domesticated cat (*Felis catus*), Virginia opossum (*Didelphis virginiana),* California ground squirrel (*Otospermophilus beecheyi*), pocket gopher (*Thomomys bottae*), deer mouse (*Peromyscus maniculatus*), vole species (*Microtus sp.*), black copper marans (*Gallus gallus domesticus*), and large owl pellets (*Strigiformes* sp. or *Tyto* sp.) was observed in the mowed agricultural field on the Project site.

A complete list of plant and wildlife species observed within the BSA during the biological reconnaissance survey is included in Appendix C.

SECTION 4 - FINDINGS

4.1 - Sensitive Natural Communities

4.1.1 - RESULTS OF LITERATURE REVIEW AND DATABASE SEARCHES

Literature results from the surrounding nine-quadrangle queries for the Project site identified four sensitive natural vegetation communities that may occur in the vicinity: Valley Sacaton Grassland, Valley Hardpan Vernal Pool, Valley Claypan Vernal Pool, and Great Valley Valley Oak Riparian Forest.

4.1.2 - Presence of Sensitive Natural Communities

Valley Sacaton Grassland, Valley Hardpan Vernal Pool, Valley Claypan Vernal Pool, and Great Valley Oak Riparian Forest communities were not present within the BSA. In addition, the BSA does not provide habitat that would support these communities.

4.2 - Special-Status Plants

4.2.1 - Results of Literature Review and Database Searches

There were eleven special-status plant species identified in the literature and database review that are known or have the potential to occur within the surrounding nine-quadrangles centered on the Project site (Table 4-1). None of the special-status plant species have historical records occurring on or overlapping the BSA or were observed during the site survey.

Table 4-1
Special-Status Plant Species Occurring in the Region of the BSA
(Source: CNDDB 2025, CNPS 2025, and USFWS 2025)

Scientific Name	Common Name	Status
Atriplex cordulata var. *cordulata*	heartscale	1B.2
Atriplex cordulata var. *erecticaulis*	Earlimart orache	1B.2
Atriplex depressa	brittlescale	1B.2
Atriplex minuscula	lesser saltscale	1B.1
Atriplex persistens	vernal pool smallscale	1B.2
Atriplex subtilis	subtle orache	1B.2
Caulanthus californicus	California jewelflower	1B.1
Delphinium recurvatum	recurved larkspur	1B.2
Eryngium spinosepalum	spiny-sepaled button-celery	1B.2
Euphorbia hooveri	Hoover's spurge	1B.2
Helianthus winteri	Winter's sunflower	1B.2
Lasthenia chrysantha	alkali-sink goldfields	1B.1
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	1B.1
Orcuttia inaequalis	San Joaquin Valley Orcutt grass	1B.1
Pseudobahia peirsonii	San Joaquin adobe sunburst	1B.1
Puccinellia simplex	California alkali grass	1B.2
Sagittaria sanfordii	Sanford's arrowhead	1B.2

CRPR (California Rare Plant Rank):
1B Rare, Threatened, or Endangered in California and elsewhere.
2B Plants Rare, Threatened, or Endangered in California, but more common elsewhere.
CRPR Threat Code Extension:
.1 Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2 Fairly endangered in California (20-80% occurrences threatened)

4.2.2 - Presence of Special-Status Plants

No special-status plant species were present within the BSA. The survey coincided with some, but not all of the plant species' optimal blooming periods; but none of the species identified in the CNDDB or IPaC database queries are expected to occur on-site due to the lack of suitable habitat conditions (previously disked agricultural field) and/or because the BSA is located outside of the species' known range. The Project site is degraded from historical agricultural uses, and the adjacent lands have been equally disturbed for residential development and as transportation corridors.

A complete list of plant species observed during the biological reconnaissance survey is included in Appendix C.

4.3 - Special-Status Wildlife

4.3.1 - Results of Literature Review and Database Searches

There were 22 special-status wildlife species identified in the literature and database review that are known or have the potential to occur within the surrounding nine-quad search area centered on the Project (Table 4-2). Other than one historical record for San Joaquin kit fox (*Vulpes macrotis mutica*) from 1972, CNDDB has no other records of any special-status wildlife species occur within the BSA.

Table 4-2
Special-Status Wildlife Species Occurring in the Region of the BSA
(Source: CNDDB 2025, and USFWS 2025)

Scientific Name	Common Name	Status
Invertebrates		
Andrena macswaini	An andrenid bee	- , SSC
Bombus crotchii	Crotch's bumble bee	- , SSC
Bombus pensylvanicus	American bumble bee	- , SSC
Danaus Plexippus	monarch butterfly	FC, SSC
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	FT, SSC
Lytta hoppingi	Hopping's blister beetle	FC, -
Aquatic Invertebrates		
Branchinecta lynchi	vernal pool fairy shrimp	FT, SCC
Lepidurus packardi	vernal pool tadpole shrimp	FE, SCC
Linderiella occidentalis	California linderiella	- , SSC
Amphibians		
Ambystoma californiense pop 1	California tiger salamander	FT, ST/SSC
Lithobates pipiens	northern leopard frog	- , SSC
Spea hammondii	western spadefoot	FC , SSC

Scientific Name	Common Name	Status
Reptiles		
Actinemys marmorata	northwestern pond turtle	- , SSC
Anniella pulchra	Northern California legless lizard	- , SSC
Gambelia silus	blunt-nosed leopard lizard	FE, SSC
Birds		
Agelaius tricolor	tricolored blackbird	- , ST/SSC
Athene cunicularia	burrowing owl	- , SSC
Buteo swainsoni	Swainson's hawk	- , ST/SSC
Coccyzus americanus occidentalis	western yellow-billed cuckoo	FT, SE/SSC
Gymnogyps californianus	California Condor	FE, SSC
Lanius ludovicianus	loggerhead shrike	- , SSC
Mammals		
Antrozous pallidus	pallid bat	FE, SE
Dipodomys nitratoides nitratoides	Tipton kangaroo rat	FE, SE
Eumops perotis californicus	western mastiff bat	- , SSC
Sorex ornatus relictus	Buena Vista Lake ornate shrew	FE, SSC
Taxidea taxus	American badger	FE, SSC
Vulpes macrotis mutica	San Joaquin kit fox	FE, ST

Abbreviations:
FC Federal Candidate
FE Federal Endangered Species
FT Federal Threatened Species
SFP Fully Protected Animal, CDFW
SE California Endangered Species
ST California Threatened Species
SSC California Department of Fish and Game Species of Special Concern
SCS California Candidate

4.3.2 - PRESENCE OF SPECIAL-STATUS WILDLIFE

Invertebrates:

There is suitable foraging habitat for An andrenid bee (*Andrena macswaini*), American bumble bee (*Bombus pensylvanicus*), and Hopping's blister beetle (*Lytta hoppingi*) with numerous flowering trees within the orchards on the project site and within the BSA as well as residential landscaping containing flowering flora.

There is limited roosting habitat for monarch butterfly (*Danaus plexippus*) present within the BSA. Although no milkweed (*Asclepias* sp.), a required food source, for larval monarch butterflies is present within the BSA, individuals may travel through the BSA as a transient

The BSA lacks suitable open grassland or scrub habitat for Crotch's bumblebee (*Bombus crotchii*);there is a single CNDDB record (98758) from 1954. The BSA does not contain any elderberry shrubs to support the valley elderberry longhorn beetle (*Desmocerus californicus dimorphus).* This species is expected to be absent from the site.

Aquatic Invertebrates:

The BSA has limited potential of pooled water features in Cameron Creek capable of supporting crustaceans such as vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardi*), and California linderiella (*Linderiella occidentalis*) But no records of these species have been documented within ten miles of the project site. Neither of these species are likely to occur within the BSA.

Amphibians:

Cameron Creek and the Tulare Irrigation Canal may provide habitat for several species including: California tiger salamander (*Ambystoma californiense*), western spadefoot (*Spea hammondii*), northern leopard frog (*Rana pipiens*) (*Actinemys marmorata*). However, these water features will not be impacted by the Project. The Project site has been cultivated and provides no suitable habitat to support these species.

No suitable nesting habitat exists to support and no CNDDB records exist within ten miles or the BSA for tricolored blackbird (*Agelaius tricolor*) or suitable habitat for the Buena Vista Lake ornate shrew (*Sorex ornatus relictus*) or northern leopard frog

Reptiles:

There are no native grasslands or native shrub habitats that would support blunt-nosed leopard lizard (*Gambelia sila*) within the BSA. There are no CNDDB records for this species within 10 miles of the BSA. This species is unlikely to occur within the BSA.

There is no suitable habitat for the Northern California legless lizard (*Anniella pulchra*) within the BSA. There is one CNDDB record (EONDX 107010) for this species 2.75 miles northwest of the BSA. It is a historic record from 1934 with one individual collected. This species is unlikely to occur within the BSA

Poor habitat and nesting areas for the northwestern pond turtle (*Actinemys marmorata*) exists within the BSA. There is a historic CNDDB record (EONDX 8143) 1.75 miles northwest, however the record is from 1879 with the population presumed to be extant. The historic record and because poor condition of the habitat and nesting areas for the species, it is unlikely to occur within the BSA.

Birds:

Tricolored blackbirds (*Agelaius tricolor*) lack suitable habitat for foraging and nesting within the BSA. There are also no CNDDB records within ten miles for the species.

Western burrowing owls (*Athene cunicularia*) inhabit grassland, open bare ground, and utilize existing small mammal burrows, typically created by California ground squirrel (*Otospermophilus beecheyi*), for breeding and shelter. There was no diagnostic sign (e.g., whitewash, tracks, prey remains) of burrowing owl observed although appropriately sized small mammal burrows are present within the BSA. Burrowing owl may be present as

transient foragers and may inhabit appropriately sized burrows at any time. No CNDDB records of the western burrowing owl are recorded within 10 miles of the BSA.

The BSA provides suitable nesting and foraging habitat for Swainson's hawk (*Buteo swainsoni*). There are a few large trees located within the southwestern boundary of the BSA along Cameron Creek that could potentially support nesting raptors including Swainson's hawk, but no nests were observed during the survey. The BSA provides suitable prey base along the boundaries where California ground squirrels are located. Agriculture within the BSA consists of a citrus orchard that is not considered foraging habitat for Swainson's hawk. The small portion of agricultural field contains suitable foraging habitat, but of a very limited size. Agricultural fields located within 0.5 miles of the project site contain suitable foraging habitat. The nearest CNDDB record (EONDX 41944) for nesting Swainson's hawk is located approximately 6.5 miles southeast the BSA in 2000. Two foraging Swainson's hawks were observed in the BSA (Figure 4-1).

The BSA does not provide suitable nesting and foraging habitat for western yellow-billed cuckoo (*Coccyzus americanus occidentalis*). Though there is one historic CNDDB record (EONDX 97213) from 1919 located 1.80 miles northwest of the Project site. The population from the record is presumed extirpated.

The BSA does not provide suitable nesting and foraging habitat for California condor (*Gymnogyps californianus*). There is potential for a transient individual to fly overhead. There are no CNDDB records within 10 miles of the BSA for this species. This species is unlikely to occur within the BSA.

The BSA provides suitable foraging and nesting habitat for the loggerheaded shrike (*Lanius ludovicianus*) in the fallow agricultural field and orchards. No CNDDB records occur within 10 miles for this species.

Mammals:

Suitable foraging and roosting habitat exist within the BSA, pallid bats (*Antrozous pallidus*) can potentially occur within it. There is one CNDDB record (EONDX 68476) 3.2 miles northeast of the BSA for this species. With this record from 2004 stating that a maternity colony of 15 adults and 15 juveniles were observed. This population from the record is considered extant by CDFW.

Due to the historic and ongoing disturbance of small mammal burrows and lack of any sign, the BSA does not support the Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*). No CNDDB records occur within 10 miles for this species. There is no connectivity between the BSA and habitat that would be considered suitable for kangaroo rat species.

Suitable foraging and roosting habitat exist within the BSA, mastiff bats (*Eumops perotis*) have the potential to occur within it. There is one CNDDB record (EONDX 61278) 3.37 miles west of the BSA. This record is from 2005 and states that individuals were recorded using ANABAT software

Though the BSA is within the historic range of the Buena Vista lake shrew (*Sorex ornatus relictus*) there are unlikely to occur within the BSA due to a lack of proper habitat. There are no CNDDB records within 10 miles of the BSA for this species.

The American badger (*Taxidea taxus*) may occur within the BSA. Several unoccupied burrows were observed with sign of badger digs in the BSA. The nearest CNDDB record (EONDX 56600), is 4 miles northeast of the BSA. This record is historical with observations occurring in 1994, however the records note that a small population is likely to still be surviving due to the large prey density. There were some potential dens that could have been dug by badgers as shown on Figure 4-1, however no other diagnostic sign (e.g., tracks, scat, prey remains) were observed.

The San Joaquin kit fox (*Vulpes macrotis mutica*) is unlikely to be present within the BSA. The nearest CNDDB record (EONDX 67933) is mapped generally within the southwest corner of the BSA and Project site. This record is historical, with the records of San Joaquin kit fox roadkill occurring between 1972-1975. The Project site lacks suitable habitat for the species due to the past and current level of disturbance and the surrounding BSA has been similarly degraded. No San Joaquin kit fox was observed during the survey though suitably sized burrows were observed during the field survey as shown on Figure 4-1. These burrows are likely enlarged California ground squirrel or badger digs.

Figure 4-1
Biological Resources Map

4.3.3 - Nesting Migratory Birds and Raptors

There are nine active clusters of swallow nests present within the BSA, three are located under the bridge for the Tulare Irrigation Canal and six under the bridge for Cameron Creek. Habitat within the Project site with potential to support nesting migratory birds and raptors include large trees, orchards, utility poles, and residential landscaping. Due to periodic mowing and other agricultural activities, it is unlikely ground nesting species would nest within the Project site.

4.4 - Critical Habitat, Movement Corridors, and Linkages

4.4.1 - Presence of Critical Habitat

The BSA is not within any USFWS designated critical habitat. The closest critical habitat is located approximately 9.5 miles north of the BSA and is designated for San Joaquin Valley Orcutt grass, Hoover's spurge, vernal pool fairy shrimp, and vernal pool tadpole shrimp (Figure 4-1).

4.4.2 - Presence of Movement Corridors and Linkages

The BSA is not within any designated wildlife linkage or movement corridors. The nearest wildlife movement corridor is located approximately 9.01 miles north of the BSA and the nearest wildlife linkage area is approximately 20.13 miles to the southwest. The Project is situated within an area developed for urban and agricultural use and does not provide a linkage between suitable natural habitats for most wildlife species. Due to the disturbed condition of the Project and surrounding area, there is no substantial movement of wildlife onto or off the BSA.

4.5 - Wetlands and Other Waters

No wetland or non-wetland water features are known to exist on the Project site. The NHD and NWI identify two water features, the Tulare Irrigation Canal, which bisects the Project site and Cameron Creek, which runs along the southerly boundary of the site (Figure 4-1). The Project is designed to completely avoid these waterways and neither will be impacted.

4.6 - Resources Protected by Local Policies and Ordinances

The City of Visalia General Plan contains policies aimed at the preservation of biological resources and promotes coordination with federal and State resource agencies. These policies are listed in Appendix A. The General Plan outlines a work plan with implementation measure by which to uphold these policies, including biological resource review for proposed projects and development of mitigation measures for these projects. The City of Visalia Valley Oak Ordinance establishes policies for care, trimming, and removal of Valley Oaks.

4.7 - Habitat Conservation Plans

The Project is located within an area covered by the PG&E San Joaquin Valley Operation and Maintenance Habitat Conservation Plan (HCP). That HCP only applies to maintenance and operations of PG&E facilities

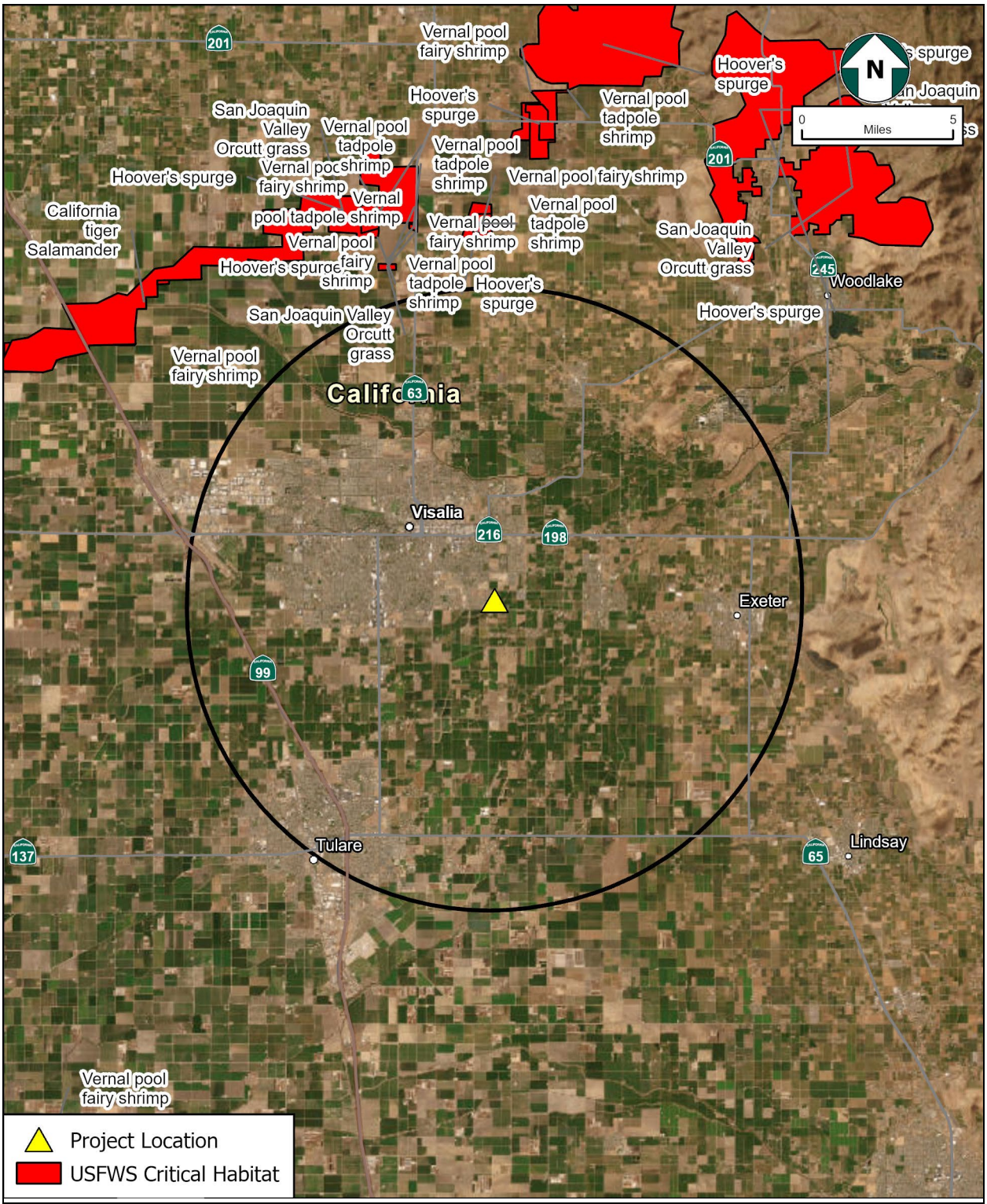


Figure 4-2
Mapped Critical Habitat in the Project Vicinity
Clement Ranch Project, Tulare County, California

SECTION 5 - POTENTIAL PROJECT IMPACTS

The purpose of this section is to present an evaluation of the potential for Project-related impacts to sensitive biological resources to occur resulting from Project construction activities. Although the potential for impacts of the Project is anticipated to be minor due to the current condition of the site, there are some risks of Project impacts. These are discussed below.

5.1 - Potential Impacts to Sensitive Vegetation Communities

No sensitive vegetation communities occur within the BSA. The Project would not impact sensitive natural communities.

5.2 - Potential Impacts to Special-Status Plant Species

No special-status plant species occur within the BSA and there is no suitable habitat for any special-status plant species on or near the BSA. The Project would not impact any special-status plant species.

5.3 - Potential Impacts to Special-Status Wildlife Species

Four special-status wildlife species; Swainson's hawk, western burrowing owl, American badger, and San Joaquin kit fox are determined to have potential to occur within the BSA as a transient. Nesting birds and raptors have the potential to occur on or near the Project site and surrounding the BSA during the nesting season. Several suitable dens are located in the BSA that can be utilized by burrowing owl, American badger, or San Joaquin kit fox and these species may be a transient forager at any time. Avoidance and minimization measures listed below will eliminate or reduce project impacts to special-status species to a less than significant level.

Any special-status species that use the Project as a movement corridor or use the multiple dens and burrows located on the Project site or vicinity may be directly or indirectly impacted by Project activities.

5.4 - Potential Impacts to Nesting Birds and Raptors

The active swallow nests under the bridges will not be directly impacted by the Project activities. Impacts by nearby construction activities will include noise, dust and other human disturbances may impact nesting behavior if the project occurs during the nesting season. No other nests were observed within the BSA. There is potential for birds to nest outside of the Project site but nearby in the BSA in existing structures and trees in the future. If there are active nests present during Project activities, nests could be impacted by Project activities that interfere with normal breeding behaviors, which could discourage breeding or lead to nest abandonment or failure. Avoidance and minimization measures listed below will eliminate or reduce impacts to nesting birds to a less than significant level

5.5 - Potential Impacts to Critical Habitat, Movement Corridors and Linkages

5.5.1 - Potential Impacts to Critical Habitat

There is no critical habitat identified in the area, and therefore, the Project would not have impact on any designated critical habitat.

5.5.2 - Potential Impacts to Movement Corridors and Linkages

Project activities would not impact any movement corridors or habitat linkages.

5.6 - Potential Impacts to Wetlands and Waters

No wetland or non-wetland water features are known to exist on the Project site. The NHD and NWI identify two water features, the Tulare Irrigation Canal, which bisects the Project site and Cameron Creek, which runs along the southerly boundary of the site (Figure 4-1). The Project is designed to completely avoid these waterways and neither will be impacted.

5.7 - Resources Protected by Local Policies and Ordinances

The Project does not conflict with the City of Visalia General Plan and is not subject to any local ordinances. Therefore, there are no impacts with respect to local policies and ordinances, and no measures are warranted.

5.8 - Habitat Conservation Plans

The Project is within the PG&E's San Joaquin Valley O&M HCP plan. Because the Project is not a PG&E facility, the Project would not conflict with any adopted HCP and there will be no impacts, and no measures are warranted.

.

SECTION 6 - AVOIDANCE AND MINIMIZATION MEASURES

Avoidance and minimization measures have been developed for the Project to reduce or eliminate impacts to a less than significant level. The Project is anticipated to have no impacts on sensitive natural communities, special-status plants, wetlands and non-wetland water features, Critical Habitat, or migratory corridors. There is potential for Project activities to result in impacts to one of the special-status wildlife species listed in Sections 4 and 5. While the potential for impacts to special-status wildlife species is low, we recommend that the following be implemented as Avoidance and Minimization Measures and Best Management Practices (BMPs) during Project activities:

BIO-1: Pre-Construction Survey: A pre-construction clearance survey of the Project footprint should be conducted for special-status wildlife species and nesting migratory birds and raptors. The survey should occur no less than 14 days prior to the start of construction activities. If construction is delayed beyond 30 days from the time of the survey, then another survey would need to be conducted. The survey should be conducted by a biologist with adequate training and prior experience conducting surveys for special-status wildlife species. If no special-status species are observed, no further action is warranted. If dens or burrows that could support special-status species and/or nesting birds and raptors are discovered during the pre-construction survey, appropriate avoidance buffers should be established. If no special-status species are observed on or near the Project site, no further surveys are required.

BIO-2: Nesting Bird Survey: If construction is planned during the nesting season for migratory birds (February 15 to August 31) and nesting birds are identified during the survey, active Swainson's hawk nest shall be avoided by 0.5 miles, other raptor nests shall be avoided by 500 feet and all other migratory bird nests shall be avoided by 250 feet. Avoidance buffers may be reduced if a qualified biological monitor determines that encroachment into the buffer area is not affecting nest building, the rearing of young, or otherwise affecting the breeding behaviors of the resident birds. Because nesting birds can establish new nests or produce a second or even third clutch at any time during the nesting season, nesting bird surveys shall be repeated every 30 days as construction activities are occurring throughout the nesting season. If no nesting birds are observed on or near the Project site, no further surveys are required.

BIO-3: Worker Environmental Awareness Program. A Worker Environmental Awareness Program shall be developed and implemented for all personnel that could access the site prior to commencing any disturbance activities. The program shall consist of an on-site or center presentation that will describe the locations and types of sensitive plant, wildlife, and sensitive natural communities (collectively, "Biological Resources") on and near the site, an overview of the laws and regulations governing the protection of Biological Resources, the reasons for protecting the Biological Resources, the specific protection and avoidance measures that are applicable to the site, and the identity of designated points of contact should questions or issues arise, including the qualified biologist. The program shall provide

training to recognize, avoid, and report to applicable qualified biologists any Biological Resources on the site.

a. The Worker Environmental Awareness Program shall emphasize the need to avoid contact with on-site wildlife and avoid entry into areas where Biological Resources have been identified based on pre-disturbance field surveys and to implement the buffer avoidance or other protection measures established by the United States Fish and Wildlife Service shall be identified California Department of Fish and Wildlife or required by the Biological Resource mitigation measures. The training shall emphasize the importance of not feeding or domesticating wildlife and the need to avoid any trash, micro trash, or potential food disposal on-site except in animal-proof containers emptied daily to avoid attracting or causing adverse impacts to special status wildlife.
b. All on-site personnel must sign a statement verifying that they have completed the Worker Environmental Awareness Program and that they understand and agree to implement the biological requirements for the worksite. If signed employee statements are not available, documentation may be provided by Worker Environmental Awareness Program training records, which shall be kept by the applicant for a minimum of five years. Each applicant shall maintain a list of all persons who have completed the training program and shall provide the list to the County or to State and federal wildlife agency representatives upon request.

BIO-4: Disturbance Buffers for Sensitive Resources: If protected or special-status species are identified on the Project site during pre-construction surveys, protective buffers shall be used, where effective in the opinion of the qualified biologist. These measures are created to avoid any unauthorized incidental take of these species and to minimize any incidental take. Protective buffers shall be delineated using brightly colored stakes and/or flagging or similar materials and remain until construction activities are complete, at which time of completion, the buffers must be removed. Protective buffers shall be established around active dens and/or burrows of special-status animal species or populations of special-status plant species to avoid unauthorized take of Protected Species as listed in the table below. The protective buffer distance shall be increased if required to avoid unauthorized incidental take of any Protected Species as determined by a qualified biologist. Protective buffer distances and other avoidance measures that may be implemented to avoid impacts to Protected Species or Sensitive Species must be consistent with the United States Fish and Wildlife Service and/or the California Department of Fish and Wildlife requirements and shall be implemented and overseen by the qualified biologist.

Table 6-1
Disturbance Buffers for Sensitive Resources

Sensitive Resource	Buffer Zone from Disturbance (feet)
Potential San Joaquin kit fox den	50
Known San Joaquin kit fox den	100
Natal San Joaquin kit fox den	500
Atypical San Joaquin kit fox den	50

Sensitive Resource	Buffer Zone from Disturbance (feet)
Rodent burrows	50
Special-status bird species' active nests	500 feet to 0.5 miles depending on species and sight line
American badger: Non-maternity dens	50
American badger: Maternity dens	200

BIO-5: Avoidance and Minimization Measures for Swainson's Hawk: If Project activities must occur during the Swainson's hawk nesting season (February 15 to September 31), pre-activity surveys should be conducted for Swainson's hawk nests in accordance with the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (TAC, 2000)*. The surveys would be conducted on the Project site plus a 0.5-mile buffer. To meet the minimum level of protection for the species, surveys should be conducted during at least two survey periods prior to the start of construction. The survey will be conducted in accordance with the methodology outlined in existing protocols and should be phased with the construction of the Project.

If no Swainson's hawk nests are found, no further action is required.

BIO-6: Swainson's Hawk Nest Avoidance: If an active Swainson's hawk nest is discovered at any time within 0.5 miles of active construction, a qualified biologist should complete an assessment of the potential for current construction activities to impact the nest. The assessment would consider the type of construction activities, the location of construction relative to the nest, the visibility of construction activities from the nest location, and other existing disturbances in the area that are not related to construction activities of this Project. Based on this assessment, the biologist will determine if construction activities can proceed and the level of nest monitoring required. Construction activities should not occur within 500 feet of an active nest, but depending upon conditions at the site, this distance may be reduced. Full-time monitoring to evaluate the effects of construction activities on nesting Swainson's hawks may be required. The qualified biologist should have the authority to stop work if it is determined that Project construction is disturbing the nest. These buffers may need to increase depending on the sensitivity of the nesting Swainson's hawk to disturbances and at the discretion of the qualified biologist.

BIO-7: Standard Avoidance and Minimization Measures for Western Burrowing Owl: If burrows that could support this species are discovered during the pre-construction clearance survey conducted under Measure BIO-1, the avoidance buffers outlined below should be established, and burrow monitoring will be conducted in accordance with the California Department of Fish and Game (CDFG) *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). No work would occur within these buffers. If occupied burrowing owl burrows cannot be avoided by the appropriate buffer below, an ITP issued by the CDFW under the California Endangered Species Act (CESA) to authorize "take" that is incidental to an otherwise lawful activity, may be required before any work within the buffer.

Location	Time of Year	Level of Disturbance

		Low	Med	High
Nesting sites	April 1 -Aug 15	200 m*	500 m	500 m
Nesting sites	Aug 16 – Oct 15	200 m	200 m	500 m
Nesting sites	Oct 16- Mar 31	50 m	100 m	500 m

*Meters (m)

BIO-8: Avoidance and Minimization Measures for the Protection of American badger: Occupied American badger dens detected during pre-disturbance surveys shall be flagged, and ground-disturbing activities avoided within 50 feet of the den. Maternity dens shall be avoided, and a minimum 200-foot buffer from disturbance shall be maintained during the pup-rearing season (February 15 through July 1). Maternity dens must be avoided to the maximum extent feasible in the opinion of a qualified biologist. If an active maternity den is proposed to be disturbed, the qualified biologist shall consult with the California Department of Fish and Wildlife to identify any appropriate additional minimization measures which the qualified biologist determines, with the wildlife agencies, can actually be implemented based on field conditions. All such measures must be implemented for Project activities.

BIO-9: General Measures: The following additional measures shall be implemented to avoid and minimize potential significant adverse impacts to Protected and Sensitive Species:

a. All vehicles shall observe a 20-mile-per-hour speed limit in all areas of disturbance and on unpaved roads unless otherwise posted. Off-road traffic outside of designated access routes is prohibited. Speed limit signs shall be posted in visible locations at the point of site entry and at regular intervals on all unpaved access roads.
b. All disturbance activities, except emergency situations or drilling that may require continuous operations, shall only occur during daylight hours. Nighttime disturbance activity for drilling purposes shall use directed lighting and shielding methods and comply with applicable lighting mitigation measures.
c. All food-related trash items and all forms of micro trash, such as wrappers, cans, bottles, bottle tops, and food scraps, shall be disposed of in closed, animal-proof containers and removed daily from the site.
d. Excavations, spoils piles, access roadways, and parking and staging areas shall be subject to dust control as set forth in the dust control mitigation measures.
e. The use of herbicides for vegetation control shall be restricted to those approved by the United States Fish and Wildlife Service and the California Department of Fish and Wildlife. No rodenticides shall be used on any site unless approved by the United States Fish and Wildlife Service and the California Department of Fish and Wildlife and shall observe label and other restrictions mandated by the United States Environmental Protection Agency, California Department of Food and Agriculture, and State and federal laws and regulations. For split estates, no herbicides for vegetation control may occur in Tier 2 areas without surface owner approval.
f. No plants or wildlife shall be collected, taken, or removed from the site or any adjacent locations except as necessary for Project-related vegetation removal or wildlife relocation by a qualified biologist and subject to all applicable permits and authorizations.

g. All open trenches or excavations shall be covered at the end of each workday to prevent wildlife entrapment. If an excavation is too large to cover, escape ramps shall be installed at an incline ratio of no greater than 2:1. All trenches and pipes shall be inspected for the presence of wildlife each day prior to the commencement of work.
h. To enable San Joaquin kit foxes and other wildlife to pass through the Project site, any perimeter fencing shall include a four- to eight-inch opening between the fence mesh and the ground, or the fence shall be raised four inches above the ground except blunt-nosed leopard lizard exclusion fencing. The bottom of the fence fabric shall be knuckled (wrapped back to form a smooth edge) to protect wildlife.
i. All vertical tubes used in Project construction and chain link fencing poles shall be temporarily or permanently capped to avoid the entrapment and death of special-status wildlife and birds. All pipes 1.5 inches or greater in diameter stored overnight on a Project location must have end caps or other physical barriers that prevent wildlife from entering the pipe.
j. All dead or injured special-status wildlife shall be left in place and reported to the United States Fish and Wildlife Service and the California Department of Fish and Wildlife within 48 hours of discovery for rescue or salvage. Discovery of State or federal listed species that are injured or dead shall also be managed consistent with regulatory requirements, including being reported immediately via telephone and within 24 hours in writing, and with a copy to the lead agency.
k. During pre-construction surveys, the qualified biologist shall delineate previously disturbed areas to be used by the applicant to minimize the amount of new disturbance.
l. No vehicles or construction equipment shall be parked within a wetland or waterbody/dry wash.
m. Tracked vehicles and other construction equipment must be washed or maintained to be weed-free prior to entering and working within areas of a new disturbance.
n. All washing of trucks, paint, equipment, or similar activities should occur in areas where runoff is fully contained for collection and off-site disposal. Wash water may not be discharged from the site and shall be located at least 100 feet from any water body or sensitive Biological Resources.
o. Locate all extra work areas (such as staging areas and additional spoil storage areas) at least 50 feet away from wetland boundaries or waterbody, except where the adjacent upland consists of cultivated or rotated cropland or other disturbed land.
p. All areas that must be avoided as a result of the pre-disturbance surveys and areas where new disturbance will occur shall be clearly delineated by fencing or staking and flagging and/or rope or cord.
q. No pets shall be allowed on any site.
r. No smoking may occur except in designated areas.

SECTION 7 - SUMMARY AND CONCLUSIONS

Land within the Project site is disturbed by agriculture but does contain minimal amount of low quality habitat that may support special-status wildlife species and nesting birds. No special status plant species or sensitive natural communities were observed or have potential to occur within the Project site. There are no designated Critical Habitats or movement corridors that would be impacted by the Project. The Project has been designed to completely avoid the water features Tulare Irrigation Canal and Cameron Creek. Therefore, impacts to these waterways will not occur as a result of the Project development.

Based on the literature and database searches and results of the site survey, there is potential for four special-status species to occur on the site, Swainson's hawk, western burrowing owl, American badger and San Joaquin kit fox. Nesting birds and raptors have the potential for occurrence on or near the Project site. Implementation of the recommended BMPs and avoidance and minimization measures outlined in Section 6 would reduce or eliminate any Project impacts to these species.

This Biological Resource Evaluation report has been performed in accordance with professionally accepted biological investigation practices conducted at this time and in this geographic area. The findings and opinions conveyed in this report are based on findings derived from specified historical and literary sources and a biological survey of the Project site and surrounding area. The biological investigation was limited by the scope of work performed. The biological survey may not have been performed during blooming periods or periods of seasonal or daily wildlife activity that would provide positive identification if resources were present, and therefore the findings of this report might not be definitive. The biological survey was also limited by the environmental conditions present at the time of the survey. In addition, general biological (or protocol) surveys do not guarantee that the organisms are not present and will not be discovered in the future within the site. Mobile animal species could occupy the site on a transient basis or re-establish populations in the future. No other guarantees or warranties, expressed or implied, are provided.

SECTION 8 - REFERENCES

California Department of Fish and Wildlife (CDFW). 2025a. California Natural Diversity Database (CNDDB), Accessed via: https://map.dfg.ca.gov/rarefind/view/RareFind.aspx.

California Department of Fish and Wildlife (CDFW). 2025b. Biogeographic Information and Observation System (BIOS). Accessed via: www.wildlife.ca.gov/data/BIOS.

California Department of Fish and Wildlife (CDFW). 2025c. CDFW's Special Animals List

California Native Plant Society (CNPS). 2025. Inventory of Rare and Endangered Plants. Accessed via: www.rareplants.cnps.org.

Federal Emergency Management Agency (FEMA) 2025. On-line Map Service Center.

Google LLC. 2025. Google Earth Pro.

Mayer, K.E. and W.F. Laudenslayer, Jr. 1988. *A guide to wildlife habitats of California. State of California*. Resources Agency, Department of Fish and Game. Sacramento, CA. 166 pp. Accessed via: https://www.wildlife.ca.gov/Data/CWHR/Wildlife-Habitats.

Netronline. 2025. Historic Aerials Viewer. Accessed via: www.historicaerials.com/viewer.

United States Department of Agriculture, Natural Resources Conservation Service (NRCS). 2025. Web Soil Survey. Accessed via: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

United States Fish and Wildlife Service (USFWS). 2025a. Information for Planning and Consultation (IPaC) online project planning tool. Accessed via: https://ecos.fws.gov/ipac/.

United States Fish and Wildlife Service (USFWS). 2025b. Critical Habitat Portal. Accessed via: https://ecos.fws.gov/ecp/report/table/critical-habitat.html.

United States Fish and Wildlife Service (USFWS). 2025c. National Wetlands Inventory Wetlands Mapper (NWI). U.S. Geological Survey.

United States Geological Survey (USGS). 2025. National Hydrography Dataset (NHD). Accessed via: https://www.usgs.gov/core-science-systems/ngp/national-hydrography.

Western Regional Climate Center (WRCC). 2025. Cooperative Climatological Data Summaries, NOAA Cooperative Station Hanford, California (043747). Accessed via: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca9367.

APPENDIX A

SPECIAL-STATUS SPECIES DATABASE SEARCH RESULTS

CLEMENTS RANCH PROJECT

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To: 06/18/2025 18:31:06 UTC
Project Code: 2025-0111284
Project Name: Clement Ranch

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

PROJECT SUMMARY

Project Code: 2025-0111284
Project Name: Clement Ranch
Project Type: Residential Construction
Project Description: The Project site is located southeast of the City of Visalia (City), adjacent to the city limits (Urban Growth Boundary II). The site consists of two separate APNs, which total roughly 75 acres. These parcels will be developed by D.R. Horton into homes.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@36.3031601,-119.25803373631454,14z

Counties: Tulare County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 9 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Buena Vista Lake Ornate Shrew *Sorex ornatus relictus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1610	Endangered
San Joaquin Kit Fox *Vulpes macrotis mutica* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2873	Endangered
Tipton Kangaroo Rat *Dipodomys nitratoides nitratoides* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7247	Endangered

BIRDS

NAME	STATUS
California Condor *Gymnogyps californianus* Population: Wherever found, except where listed as an experimental population There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8193	Endangered

REPTILES

NAME	STATUS
Blunt-nosed Leopard Lizard *Gambelia silus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/625	Endangered
Northwestern Pond Turtle *Actinemys marmorata* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1111	Proposed Threatened

AMPHIBIANS

NAME	STATUS
Western Spadefoot *Spea hammondii* Population: Northern DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5425	Proposed Threatened

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

CRUSTACEANS

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi*	Threatened

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/498

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: QK
Name: Mattole Whitaker
Address: 601 E Pollasky Ave Suite 301
City: Clovis
State: CA
Zip: 93612
Email mattole.whitaker@qkinc.com
Phone: 5594492400

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE **RareFind**

Query Summary:
Quad IS (Visalia (3611933) OR Monson (3611943) OR Traver (3611944) OR Goshen (3611934) OR Paige (3611924) OR Tulare (3611923) OR Cairns Corner (3611922) OR Exeter (3611932) OR Ivanhoe (3611942))

Print Close

CNDDB Element Query Results

Scientific Name	Common Name	Taxonomic Group	Element Code	Total Occs	Returned Occs	Federal Status	State Status	Global Rank	State Rank	CA Rare Plant Rank	Other Status	Habitats
Actinemys marmorata	northwestern pond turtle	Reptiles	ARAAD02031	1160	1	Proposed Threatened	None	G2	SNR	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_VU-Vulnerable, USFS_S-Sensitive	null
Agelaius tricolor	tricolored blackbird	Birds	ABPBXB0020	960	1	None	Threatened	G1G2	S2	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_EN-Endangered, USFWS_BCC-Birds of Conservation Concern	Freshwater marsh, Marsh & swamp, Swamp, Wetland
Ambystoma californiense pop. 1	California tiger salamander - central California DPS	Amphibians	AAAAA01181	1329	7	Threatened	Threatened	G2G3T3	S3	null	CDFW_WL-Watch List, IUCN_VU-Vulnerable	Cismontane woodland, Meadow & seep, Riparian woodland, Valley & foothill grassland, Vernal pool, Wetland
Andrena macswaini	An andrenid bee	Insects	IIHYM35130	7	1	None	None	G2	S2	null	null	null
Anniella pulchra	Northern California legless lizard	Reptiles	ARACC01020	386	2	None	None	G3	S2S3	null	CDFW_SSC-Species of Special Concern, USFS_S-Sensitive	Chaparral, Coastal dunes, Coastal scrub
Antrozous pallidus	pallid bat	Mammals	AMACC10010	425	1	None	None	G4	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive	Chaparral, Coastal scrub, Desert wash, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Riparian woodland, Sonoran desert scrub,

												Upper montane coniferous forest, Valley & foothill grassland
Athene cunicularia	burrowing owl	Birds	ABNSB10010	2133	10	None	Candidate Endangered	G4	S2	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern	Coastal prairie, Coastal scrub, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Sonoran desert scrub, Valley & foothill grassland
Atriplex cordulata var. cordulata	heartscale	Dicots	PDCHE040B0	66	1	None	None	G3T2	S2	1B.2	BLM_S-Sensitive	Chenopod scrub, Meadow & seep, Valley & foothill grassland
Atriplex cordulata var. erecticaulis	Earlimart orache	Dicots	PDCHE042V0	23	4	None	None	G3T1	S1	1B.2	BLM_S-Sensitive	Valley & foothill grassland
Atriplex depressa	brittlescale	Dicots	PDCHE042L0	60	2	None	None	G2	S2	1B.2	null	Alkali playa, Chenopod scrub, Meadow & seep, Valley & foothill grassland, Vernal pool, Wetland
Atriplex minuscula	lesser saltscale	Dicots	PDCHE042M0	52	8	None	None	G2	S2	1B.1	SB_CalBG/RSABG-California/ Rancho Santa Ana Botanic Garden	Alkali playa, Chenopod scrub, Valley & foothill grassland
Atriplex persistens	vernal pool smallscale	Dicots	PDCHE042P0	41	2	None	None	G2	S2	1B.2	null	Vernal pool, Wetland
Atriplex subtilis	subtle orache	Dicots	PDCHE042T0	24	2	None	None	G1	S1	1B.2	BLM_S-Sensitive	Valley & foothill grassland
Bombus crotchii	Crotch's bumble bee	Insects	IIHYM24480	640	1	None	Candidate Endangered	G2	S2	null	IUCN_EN-Endangered	null
Bombus pensylvanicus	American bumble bee	Insects	IIHYM24260	810	3	None	None	G3G4	S2	null	IUCN_VU-Vulnerable	Coastal prairie, Great Basin grassland, Valley & foothill grassland
Branchinecta lynchi	vernal pool fairy shrimp	Crustaceans	ICBRA03030	804	14	Threatened	None	G3	S3	null	IUCN_VU-Vulnerable	Valley & foothill grassland, Vernal pool, Wetland
Buteo swainsoni	Swainson's hawk	Birds	ABNKC19070	2585	34	None	Threatened	G5	S4	null	BLM_S-Sensitive, IUCN_LC-Least Concern	Great Basin grassland, Riparian forest, Riparian woodland, Valley &

												foothill grassland
Caulanthus californicus	California jewelflower	Dicots	PDBRA31010	67	1	Endangered	Endangered	G1	S1	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_SBBG-Santa Barbara Botanic Garden, SB_UCBG-UC Botanical Garden at Berkeley	Chenopod scrub, Pinon & juniper woodlands, Valley & foothill grassland
Coccyzus americanus occidentalis	western yellow-billed cuckoo	Birds	ABNRB02022	165	1	Threatened	Endangered	G5T2T3	S1	null	BLM_S-Sensitive, USFS_S-Sensitive	Riparian forest
Delphinium recurvatum	recurved larkspur	Dicots	PDRAN0B1J0	119	4	None	None	G2?	S2	1B.2	BLM_S-Sensitive, SB_SBBG-Santa Barbara Botanic Garden	Chenopod scrub, Cismontane woodland, Valley & foothill grassland
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	Insects	IICOL48011	271	1	Threatened	None	G3T3	S3	null	null	Riparian scrub
Dipodomys nitratoides nitratoides	Tipton kangaroo rat	Mammals	AMAFD03152	81	1	Endangered	Endangered	G2T1T2	S2	null	IUCN_VU-Vulnerable	Chenopod scrub
Eryngium spinosepalum	spiny-sepaled button-celery	Dicots	PDAPI0Z0Y0	108	7	None	None	G2	S2	1B.2	BLM_S-Sensitive, SB_SBBG-Santa Barbara Botanic Garden	Valley & foothill grassland, Vernal pool, Wetland
Eumops perotis californicus	western mastiff bat	Mammals	AMACD02011	296	2	None	None	G4G5T4	S3S4	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern	Chaparral, Cismontane woodland, Coastal scrub, Valley & foothill grassland
Euphorbia hooveri	Hoover's spurge	Dicots	PDEUP0D150	29	5	Threatened	None	G1	S1	1B.2	null	Vernal pool, Wetland
Great Valley Valley Oak Riparian Forest	Great Valley Valley Oak Riparian Forest	Riparian	CTT61430CA	33	1	None	None	G1	S1.1	null	null	Riparian forest
Helianthus winteri	Winter's sunflower	Dicots	PDAST4N260	55	7	None	None	G2?	S2?	1B.2	BLM_S-Sensitive, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Cismontane woodland, Valley & foothill grassland
Imperata brevifolia	California satintail	Monocots	PMPOA3D020	32	1	None	None	G3	S3	2B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_SBBG-Santa Barbara Botanic Garden, USFS_S-Sensitive	Chaparral, Coastal scrub, Meadow & seep, Mojavean desert scrub, Riparian scrub, Wetland

Lanius ludovicianus	loggerhead shrike	Birds	ABPBR01030	110	1	None	None	G4	S4	null	CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened	Broadleaved upland forest, Desert wash, Joshua tree woodland, Mojavean desert scrub, Pinon & juniper woodlands, Riparian woodland, Sonoran desert scrub
Lasthenia chrysantha	alkali-sink goldfields	Dicots	PDAST5L030	55	6	None	None	G2	S2	1B.1	null	Vernal pool
Lasthenia glabrata ssp. coulteri	Coulter's goldfields	Dicots	PDAST5L0A1	109	1	None	None	G4T2	S2	1B.1	BLM_S-Sensitive, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_SBBG-Santa Barbara Botanic Garden	Alkali playa, Marsh & swamp, Salt marsh, Vernal pool, Wetland
Lepidurus packardi	vernal pool tadpole shrimp	Crustaceans	ICBRA10010	336	9	Endangered	None	G3	S3	null	IUCN_EN-Endangered	Valley & foothill grassland, Vernal pool, Wetland
Linderiella occidentalis	California linderiella	Crustaceans	ICBRA06010	508	4	None	None	G2G3	S2S3	null	IUCN_NT-Near Threatened	Vernal pool
Lithobates pipiens	northern leopard frog	Amphibians	AAABH01170	19	2	None	None	G5	S2	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Freshwater marsh, Great Basin flowing waters, Great Basin standing waters, Marsh & swamp, Wetland
Lytta hoppingi	Hopping's blister beetle	Insects	IICOL4C010	5	1	None	None	G1G2	S2	null	null	null
Northern Claypan Vernal Pool	Northern Claypan Vernal Pool	Herbaceous	CTT44120CA	21	1	None	None	G1	S1.1	null	null	Vernal pool, Wetland
Northern Hardpan Vernal Pool	Northern Hardpan Vernal Pool	Herbaceous	CTT44110CA	126	3	None	None	G3	S3.1	null	null	Vernal pool, Wetland
Orcuttia inaequalis	San Joaquin Valley Orcutt grass	Monocots	PMPOA4G060	47	2	Threatened	Endangered	G1	S1	1B.1	null	Vernal pool, Wetland
Pseudobahia peirsonii	San Joaquin adobe sunburst	Dicots	PDAST7P030	51	1	Threatened	Endangered	G1	S1	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Cismontane woodland, Valley & foothill grassland
Puccinellia simplex	California alkali grass	Monocots	PMPOA53110	80	5	None	None	G2	S2	1B.2	BLM_S-Sensitive	Chenopod scrub, Meadow & seep, Valley & foothill grassland, Vernal pool

Sagittaria sanfordii	Sanford's arrowhead	Monocots	PMALI040Q0	143	2	None	None	G3	S3	1B.2	BLM_S-Sensitive	Marsh & swamp, Wetland
Spea hammondii	western spadefoot	Amphibians	AAABF02020	1445	30	Proposed Threatened	None	G2G3	S3S4	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened	Cismontane woodland, Coastal scrub, Valley & foothill grassland, Vernal pool, Wetland
Talanites moodyae	Moody's gnaphosid spider	Arachnids	ILARA98020	6	3	None	None	G2G3	S2S3	null	null	Ultramafic
Taxidea taxus	American badger	Mammals	AMAJF04010	648	1	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Alkali marsh, Alkali playa, Alpine, Alpine dwarf scrub, Bog & fen, Brackish marsh, Broadleaved upland forest, Chaparral, Chenopod scrub, Cismontane woodland, Closed-cone coniferous forest, Coastal bluff scrub, Coastal dunes, Coastal prairie, Coastal scrub, Desert dunes, Desert wash, Freshwater marsh, Great Basin grassland, Great Basin scrub, Interior dunes, Ione formation, Joshua tree woodland, Limestone, Lower montane coniferous forest, Marsh & swamp, Meadow & seep, Mojavean desert scrub, Montane dwarf scrub, North coast coniferous forest, Oldgrowth, Pavement plain,

												Redwood, Riparian forest, Riparian scrub, Riparian woodland, Salt marsh, Sonoran desert scrub, Sonoran thorn woodland, Ultramafic, Upper montane coniferous forest, Upper Sonoran scrub, Valley & foothill grassland
Valley Sacaton Grassland	Valley Sacaton Grassland	Herbaceous	CTT42120CA	9	2	None	None	G1	S1.1	null	null	Valley & foothill grassland
Vulpes macrotis mutica	San Joaquin kit fox	Mammals	AMAJA03041	1020	21	Endangered	Threatened	G4T2	S3	null	null	Chenopod scrub, Valley & foothill grassland

CALIFORNIA NATIVE PLANT SOCIETY

CNPS Rare Plant Inventory

Search Results

18 matches found. Click on scientific name for details

Search Criteria: , CRPR is one of [1A:1B:2B] , 9-Quad include [3611922:3611933:3611923:3611932:3611943:3611942:3611924:3611934:3611944]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	CA ENDEMIC	DATE ADDED	PHOTO
Atriplex cordulata var. *cordulata*	heartscale	Chenopodiaceae	annual herb	Apr-Oct	None	None	G3T2	S2	1B.2	Yes	1988-01-01	© 1994 Robert E. Preston, Ph.D.
Atriplex cordulata var. *erecticaulis*	Earlimart orache	Chenopodiaceae	annual herb	Aug-Sep(Nov)	None	None	G3T1	S1	1B.2	Yes	2001-01-01	© 2009 Robert E. Preston, Ph.D.
Atriplex depressa	brittlescale	Chenopodiaceae	annual herb	Apr-Oct	None	None	G2	S2	1B.2	Yes	1994-01-01	© 2009 Zoya Akulova
Atriplex minuscula	lesser saltscale	Chenopodiaceae	annual herb	May-Oct	None	None	G2	S2	1B.1	Yes	1994-01-01	© 2000 Robert E. Preston, Ph.D.
Atriplex persistens	vernal pool smallscale	Chenopodiaceae	annual herb	Jun-Oct	None	None	G2	S2	1B.2	Yes	2001-01-01	No Photo Available

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	CA ENDEMIC	DATE ADDED	PHOTO
Atriplex subtilis	subtle orache	Chenopodiaceae	annual herb	(Apr)Jun-Sep(Oct)	None	None	G1	S1	1B.2	Yes	1994-01-01	© 2000 Robert E. Preston, Ph.D.
Caulanthus californicus	California jewelflower	Brassicaceae	annual herb	Feb-May	FE	CE	G1	S1	1B.1	Yes	1984-01-01	No Photo Available
Delphinium recurvatum	recurved larkspur	Ranunculaceae	perennial herb	Mar-Jun	None	None	G2?	S2	1B.2	Yes	1988-01-01	No Photo Available
Eryngium spinosepalum	spiny-sepaled button-celery	Apiaceae	annual/ perennial herb	Apr-Jun	None	None	G2	S2	1B.2	Yes	1980-01-01	No Photo Available
Euphorbia hooveri	Hoover's spurge	Euphorbiaceae	annual herb	(May-Jun)Jul-Sep(Oct)	FT	None	G1	S1	1B.2	Yes	1974-01-01	© 2020 Neal Kramer
Helianthus winteri	Winter's sunflower	Asteraceae	perennial shrub	Jan-Dec	None	None	G2?	S2?	1B.2	Yes	2014-10-15	© 2014 Chris Winchell
Imperata brevifolia	California satintail	Poaceae	perennial rhizomatous herb	Sep-May	None	None	G3	S3	2B.1		2006-12-26	© 2020 Matt C. Berger
Lasthenia chrysantha	alkali-sink goldfields	Asteraceae	annual herb	Feb-Apr	None	None	G2	S2	1B.1	Yes	2019-09-30	© 2009 California State University, Stanislaus

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	CA ENDEMIC	DATE ADDED	PHOTO
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	Asteraceae	annual herb	Feb-Jun	None	None	G4T2	S2	1B.1		1994-01-01	© 2013 Keir Morse
Orcuttia inaequalis	San Joaquin Valley Orcutt grass	Poaceae	annual herb	Apr-Sep	FT	CE	G1	S1	1B.1	Yes	1974-01-01	No Photo Available
Pseudobahia peirsonii	San Joaquin adobe sunburst	Asteraceae	annual herb	Feb-Apr	FT	CE	G1	S1	1B.1	Yes	1974-01-01	No Photo Available
Puccinellia simplex	California alkali grass	Poaceae	annual herb	Mar-May	None	None	G2	S2	1B.2		2015-10-15	© 2017 Chris Winchell
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	None	None	G3	S3	1B.2	Yes	1984-01-01	©2013 Debra L. Cook

Showing 1 to 18 of 18 entries

Go to top

Suggested Citation:
California Native Plant Society, Rare Plant Program. 2025. Rare Plant Inventory (online edition, v9.5.1). Website https://www.rareplants.cnps.org [accessed 26 June 2025].
}

APPENDIX B

REPRESENTATIVE PHOTOGRAPHS

CLEMENTS RANCH PROJECT

Photograph 1. Representative view of agriculture field that comprises approximately half of the project site.
Coordinates: 36.30258 °N, -119.26019 °W facing north.
Photograph taken by Mattole Whitaker on June 16, 2025.

Photograph 2. California ground squirrel burrows along north bank of Tulare irrigation canal.
Coordinates: 36.30564 °N, -119.25745 °W facing northwest.
Photograph taken by Mattole Whitaker on June 16, 2025

Photograph 3. Representative Photograph of Cameron Creek on southern edge of project site
Coordinates: 36.29924 °N, -119.25904 °W facing southeast.
Photograph taken by Mattole Whitaker on June 16, 2025.

Photograph 4. Multiple swallow species mudnests under Tulare irrigation canal bridge.
Coordinates: 36.30417 °N, -119.26044 °W facing west.
Photograph taken by Mattole Whitaker on June 16, 2025.

Photograph 5. Unmaintained grassland habitat within BSA.
Coordinates: 36.30548 °N, -119.25999 °W facing east.
Photograph taken by Mattole Whitaker on June 16, 2025.

Photograph 6. American badger claw marks on potential den entrance.
Coordinates: 36.30504 °N, -119.25784 °W facing 199.16°.
Photograph taken by Mattole Whitaker on June 16, 2025.

Photograph 7. Northern orchard representative photograph.
Coordinates: 36.30417 °N, -119.26044 °W facing west.
Photograph taken by Mattole Whitaker on June 16, 2025.

.

Photograph 8. Southern orchards representative photograph.
Coordinates: 36.29981 °N, -119.25623 °W facing north.
Photograph taken by Mattole Whitaker on June 16, 2025.

Photograph 9. Suitable sized burrows for use by San Joaquin kit fox.
Coordinates: 36.30491 °N, -119.2581 °W facing 239.9°.
Photo taken by Mattole Whitaker on June 16, 2025.

APPENDIX C

PLANT AND WILDLIFE SPECIES OBSERVED

CLEMENTS RANCH PROJECT

Table C - 1
Plant and Wildlife Species Observed within the BSA

Scientific Name	Common Name	Status
Plants		
Alternanthera philoxeroides	Alligatorweed	None
Amaranthus blitoides	mat amaranth	None
Ambrosia bursage	annual bursage	None
Bromus diandrus	ripgut brome	None
Bromus madritensis ssp. *rubens*	red brome	None
Chenopodium album	lamb's quarters	None
Convolvulus arvensis	field bindweed	None
Cynodon dactylon	Bermuda grass	None
Datura wrightii	jimsonweed	None
Diplachne fusca	brown beetle grass	None
Erigeron canadensis	horseweed	None
Erythranthe guttata	Seep monkey flower	None
Juglans californica	California black walnut	None
Lactuca serriola	prickly lettuce	None
Malva neglecta	common mallow	None
Morus alba	white mulberry	None
Paspalum dilatatum	Dallis grass	None
Platanus racemosa	western sycamore	None
Polygonum aviculare	prostrate knotweed	None
Prunus persica	Peach	None
Quercus lobata	valley oak	None
Rumex crispus	curly dock	None
Salsola tragus	Russian thistle	None
Scirpoides holoschoenus	bull rush	None
Taeniatherum caput-medusae	medusahead	None
Tribulus terrestris	puncture vine	None
Trichostema lanceolatum	vinegar weed	None
Triticum aestivum	common wheat	None
Ornamental shrubs/trees		None
Reptiles		
Aspidoscelis tigris	western whiptail	None
Uta stansburiana	common side-blotched lizard	None
Birds		
Aphelocoma californica	California scrub jay	None
Buteo swainsonii	Swainson's hawk	SSC
Charadrius vociferus	killdeer	None
Corvus brachyrhynchos	American crow	None
Petrochelidon pyrrhonota	cliff swallow	None

Zenaida macroura	mourning dove	None
Mammals		
*Canis familiaris**	domestic dog	None
*Didelphis virginiana**	Virginia opossum	None
Microtus californicus	California vole	None
Mus musculus	house mouse	None
Otospermophilus beecheyi	California ground squirrel	None
*Procyon lotor**	northern racoon	None

* Indicates that only sign (e.g., tracks, scat, burrows, dens, vocalizations) of the species was observed.

APPENDIX C
CULTURAL RESOURCES TECHNICAL MEMORANDUM

TECHNICAL MEMORANDUM

Date: August 13, 2025

Project: Cultural resources records search- **Clements Ranch Project**

To: Jaymie Brauer, Principal Planner

From: Robert Parr, MS, RPA, Senior Archaeologist

Subject: Cultural Resources Records Search Results (RS#25-292)

Background

A cultural resources records search (#25-292) was conducted for the Clements Ranch Project at the Southern San Joaquin Valley Information Center at California State University, Bakersfield. The purpose of the search was to determine whether any known cultural resources were located on or near the proposed project that might be impacted by project development and/or activities.

Project Location

The Project site is located within an area of unincorporated Tulare County, southeast of the City of Visalia (City), adjacent to the city limits. The site consists of two separate Assessor Parcel Numbers (APNs), 127-020-20 and -21. The Project is within Section 3, Township 19S, Range 25E, Mount Diablo Base and Meridian (MDB&M), of the Visalia U.S. Geological Survey (USGS) Quad Map (see Attachment A).

Project Description

Development of a residential subdivision that would consist of mixed density housing types (High, Medium and Low Density). On- and off-site improvements including rooftop solar panels, circulation roads, interior local streets, curb, gutter, sidewalk, walking trail, open space/parks, landscaping, water well site, and stormwater basin area. The Project site is located southeast of the City of Visalia (City), adjacent to the city limits. The site consists of two separate Assessor Parcel Numbers (APNs), 127-020-21 and -20, totaling approximately 75 acres. The site is generally bound by the Union Pacific Railroad to the north, Cameron Creek to the east and south, and Lovers Lane to the west. The Project proponent is requesting approval of the following land use entitlements: 1) Annexation to the City of Visalia; 2) Pre-zone from Tulare County AE to City of Visalia R-1-5 and R-M-3; 3) General Plan Amendment to rearrange the existing Low, Medium and High Density Residential, while keeping the Conservation designation as is; 4) Conditional Use Permit for a Planned Unit Development to deviate from development standards to allow for the development of single-family homes within the Medium-Density land use/R-M-2 designation; and 5) Tentative Tract Map Approval. Construction will take 18-24 months for full buildout.

Results

The records search covered an area within one-half mile of the project and included a review of the *National Register of Historic Places*, *California Points of Historical Interest*, *California Registry of Historic Resources*, *California Historical Landmarks*, *California State Historic Resources Inventory*, and a review of cultural resource reports on file.

The records search indicated that the project had never been surveyed for cultural resources. One historic cultural resource, the Tulare Irrigation Canal (primary no. P-54-005296), passes through the northwest corner of the project. The canal was constructed some time between 1889, when the Tulare Irrigation District was organized, and 1892 when it appeared on the 1892 Thompson County Atlas (Hattersley-Drayton 2022). However, this water feature is not identified as being a historic resource in the General Plan EIR. While it is historic in nature, the canal has been systematically altered over time, and lacks the integrity to warrant protection as a cultural resource under CEQA.

Five cultural resource studies have been conducted within a half mile of the project (Cantwell 1978; Villacorta 2002; Haley 2009a, 2009b; O'Brien 2009; Foglia et al. 2017; Carey et al. 2022; Sauls 2022).

Four historic and one prehistoric cultural resources have been recorded within one half mile of the project. The historic-era resources include two additional irrigation ditches (P-54-005289 & P-54-005667) the route of the Southern Pacific/San Joaquin Valley Railroad (P-54-004626), and an historic building (P-54-005067). The prehistoric resource was an isolated artifact (P-54-000107) described as a "spear point" that was reported and collected in 1959.

A Sacred Lands File request was also submitted to the Native American Heritage Commission (NAHC). A response dated May 7, 2025, indicates *negative* results (see Attachment B).

Conclusions

Based on the results of cultural records search findings and the lack of significant historical or archaeological resources previously identified within a half mile radius of the proposed Project, the potential to encounter subsurface cultural resources is minimal. The potential to uncover subsurface historical or archaeological deposits would be considered unlikely.

However, there is still a possibility that historical or archaeological materials may be exposed during construction. Grading and trenching, as well as other ground-disturbing actions have the potential to damage or destroy these previously unidentified and potentially significant cultural resources within the project area, including historical or archaeological resources. Disturbance of any deposits that have the potential to provide significant cultural data would be considered a significant impact. To reduce the potential impacts of the Project on cultural resources, the following measures are recommended to be included as Conditions of Approval. With implementation of CUL-1 and CUL-2, the Project would have a less than significant impact related to cultural resources.

> **CUL-1:** If prehistoric or historic-era cultural materials are encountered during construction activities, all work in the immediate vicinity of the find shall halt until a qualified archaeologist

can evaluate the find and make recommendations. Cultural resource materials may include prehistoric resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock as well as historic resources such as glass, metal, wood, brick, or structural remnants. If the qualified archaeologist determines that the discovery represents a potentially significant cultural resource, additional investigations may be required to mitigate adverse impacts from Project implementation. These additional studies may include avoidance, testing, and evaluation or data recovery excavation. Implementation of the mitigation measure below would ensure that the proposed Project would not cause a substantial adverse change in the significance of a historical resource.

CUL-2: If human remains are discovered during construction or operational activities, further excavation or disturbance shall be prohibited pursuant to Section 7050.5 of the California Health and Safety Code. The specific protocol, guidelines, and channels of communication outlined by the Native American Heritage Commission, in accordance with Section 7050.5 of the Health and Safety Code, Section 5097.98 of the Public Resources Code (Chapter 1492, Statutes of 1982, Senate Bill 297), and Senate Bill 447 (Chapter 44, Statutes of 1987), shall be followed. Section 7050.5(c) shall guide the potential Native American involvement, in the event of discovery of human remains, at the direction of the county coroner.

Robert E. Parr, MS, RPA
Senior Archaeologist

Attachment A- Figures
Attachment B- NAHC Response Letter

240208

References
(Alpha-numeric designation in parentheses following citation refers to IC report reference number)

Cantwell, R. J.
1978 Archaeological and Historical Survey Report for Road 137 (Pinkham) from D-136 (K Road) to Avenue 259, Tulare County, California. (TU-00214)

Carey, Peter A., David S. Whitley, and Robert Azpitarte
2022 Phase I Survey, Pearl Woods Subdivision Project, Tulare County, California. ASM Affiliates, Inc. (TU-01966)

Foglia, Shannon E., Theodore G. Cooley, and Chandra Miller
2017 Cultural Resources Survey Report for the Proposed Southern California Edison North of Magunden Transmission Line Rating Remediation Project, Kern and Tulare Counties, California. AECOM (TU-01764)

Haley, Kathryn
2009a Historic Property Survey Report for Avenue 280 Road Widening Project, Tulare County, California. ICF Jones & Stokes. (TU-01659)

2009b Avenue 280 Road Widening Project Historic Resources Evaluation Report. ICF Jones & Stokes (TU-01659A)

Hattersley-Drayton, Karana
2022 Site Record Form for Site Primary no. P-54-005296 (trinomial: CA-TUL-3103H), dated 13 February, 2022.

O'Brien, Traci
2009 Avenue 280Road Widening Project Archaeological Survey Report. ICF Jones & Stokes (TU-01659B)

Sauls, Consuelo Y.
2022 Phase I Cultural Resources Assessment for the Higgin's Ranch Annexation and Tentative Subdivision Map Project, City of Visalia, Tulare County, California. Taylored Archaeology (TU-01936)

Villacorta, Estella
2002 Section 106 Review, GeoTek Project #0032SA2-017B Caldwell Avenue, Visalia, California. GeoTek, Inc. (TU-01167)

TECHNICAL MEMORANDUM

Attachment A -
Figures

Figure 1
Regional Location

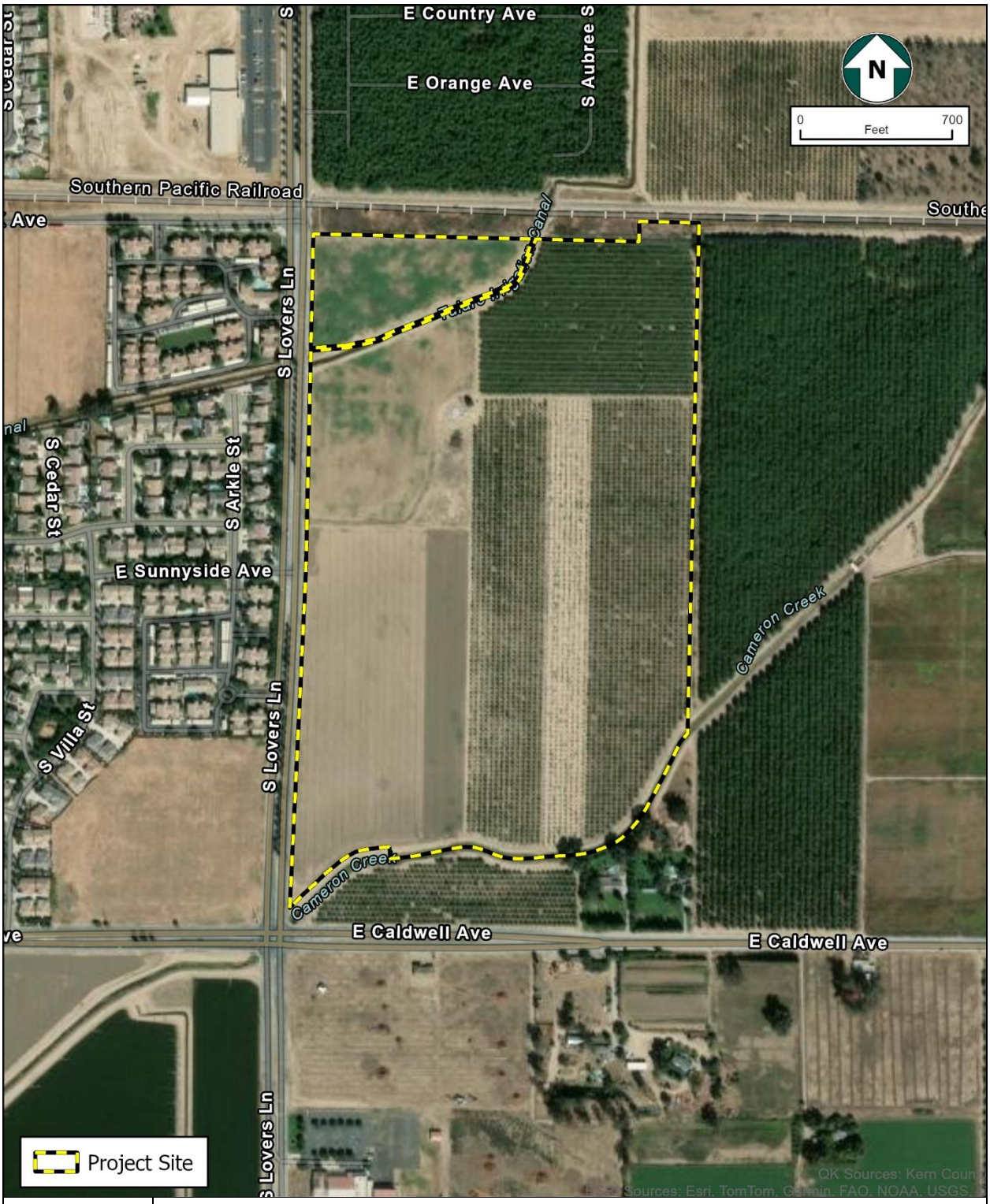


Figure 2
Project Site

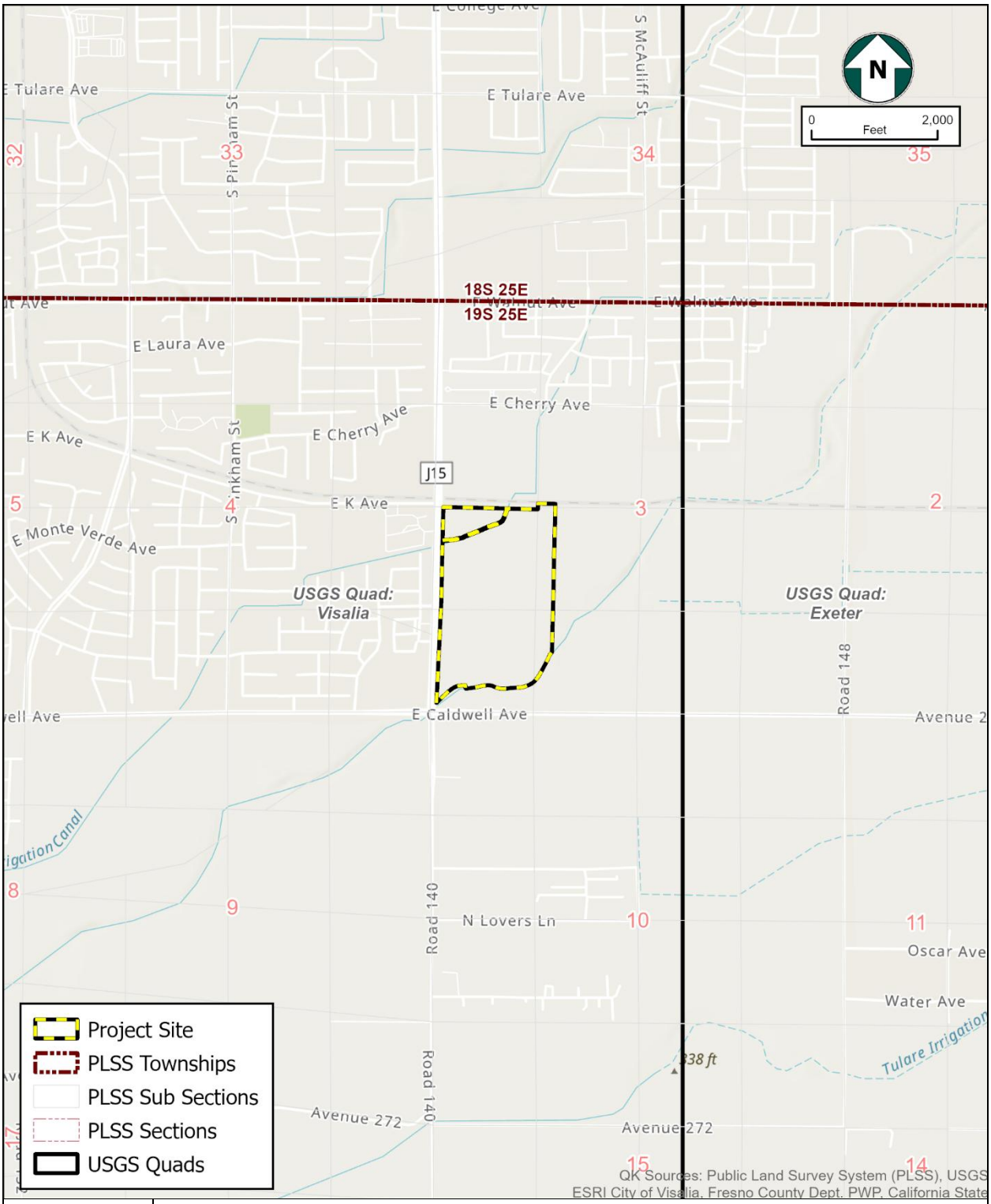


Figure 3
PLSS/USGS Quad

Figure 4
Topo

Attachment B -
NAHC Response Letter

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Reginald Pagaling
Chumash

VICE-CHAIRPERSON
Buffy McQuillen
Yokayo Pomo, Yuki, Nomlaki

SECRETARY
Sara Dutschke
Miwok

PARLIAMENTARIAN
Wayne Nelson
Luiseño

COMMISSIONER
Isaac Bojorquez
Ohlone-Costanoan

COMMISSIONER
Stanley Rodriguez
Kumeyaay

COMMISSIONER
Reid Milanovich
Cahuilla

COMMISSIONER
Bennae Calac
Pauma-Yuima Band of Luiseño Indians

Commissioner
Vacant

ACTING EXECUTIVE SECRETARY
STEVEN QUINN

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov

July 7, 2025

Jaymie Brauer
QK Inc.

Via Email to: jaymie.brauer@qkinc.com

Re: Native American Consultation, Pursuant to Senate Bill 18 (SB18), Government Codes §65352.3 and §65352.4, as well as Assembly Bill 52 (AB52), Public Resources Codes §21080.1, §21080.3.1 and §21080.3.2, Clements Ranch (240208) Project, Tulare County

To Whom It May Concern:

Attached is a consultation list of tribes with traditional lands or cultural places located within the boundaries of the above referenced counties or projects.

Government Codes §65352.3 and §65352.4 require local governments to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of avoiding, protecting, and/or mitigating impacts to cultural places when creating or amending General Plans, Specific Plans and Community Plans.

Public Resources Codes §21080.3.1 and §21080.3.2 requires public agencies to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of avoiding, protecting, and/or mitigating impacts to tribal cultural resources as defined, for California Environmental Quality Act (CEQA) projects.

The law does not preclude local governments and agencies from initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction. The NAHC believes that this is the best practice to ensure that tribes are consulted commensurate with the intent of the law.

Best practice for the AB52 process and in accordance with Public Resources Code §21080.3.1(d), is to do the following:

Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.

The NAHC also recommends, but does not require that lead agencies include in their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential effect (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

    - A listing of any and all known cultural resources have already been recorded on or adjacent to the APE, such as known archaeological sites;
    - Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
    - Whether the records search indicates a low, moderate or high probability that unrecorded cultural resources are located in the APE; and
    - If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

    - Any report that may contain site forms, site significance, and suggested mitigation measures.

      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 in accordance with Government Code Section 6254.10.

3. The result of the Sacred Lands File (SLF) check conducted through the Native American Heritage Commission was negative.

4. Any ethnographic studies conducted for any area including all or part of the potential APE; and

5. Any geotechnical reports regarding all or part of the potential APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS is not exhaustive, and a negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event that they do, having the information beforehand will help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance we can assure that our consultation list remains current.

If you have any questions, please contact me at my email address: melina.carlos@nahc.ca.gov

Sincerely,

Melina Carlos

Melina Carlos
Cultural Resources Analyst

Attachment

VISALIA

Planning & Community Preservation Department
Planning Division

October 22, 2025

Kitanemuk & Yowlumne Tejon Indians
Delia Dominguez, Chairperson
115 Radio Street
Bakersfield, CA 93305

Subject: Invitation For Early Consultation For A Pending Project

Dear Representative:

This letter is provided in accordance with the procedures prescribed by Senate Bill 18 (CEQA-Tribal Cultural Resources). The City of Visalia is initiating a project application whose description is provided below, and as shown on the attached area map. The City of Visalia respectfully requests your review of the project, and invites you to request a consultation if you desire. Senate Bill 18 allows for a 90-day early review period before the City may proceed further in the project entitlement process or an associated environmental review under the California Environmental Quality Act (CEQA).

General Plan Amendment No. 2025-04: A request to amend the location and acreage of General Plan land use designations within 75 acres, resulting in the redistribution of Residential Low Density, Residential Medium Density, and Residential High Density land use designations.

Clements Ranch Tentative Subdivision Map No. 5606 and Conditional Use Permit No. 2025-04: A request to divide approximately 67.74 acres into a 292-unit single-family residential subdivision with a 21-acre Remainder parcel.

Annexation No. 2025-02: A request to annex the subject site.

Location: The project location is the east side of Lovers Lane between K Avenue and Caldwell Avenue. (APN: 127-020-020 and 127-020-021).

If you have any concerns or information regarding archaeological resources or traditional tribal cultural places in or near the Planning Area, or if you would like to be involved in the planning process, please let us know. We would appreciate receiving your response by December 31, 2025.

Thank you,

Brandon Smith, Principal Planner
City of Visalia Planning & Community Preservation Department
315 E. Acequia Avenue
Visalia, CA 93291
Phone: (559) 713-4636
Email: brandon.smith@visalia.gov

APPENDIX D
TRAFFIC IMPACT ANALYSIS AND VEHICLE MILES TRAVELED ANALYSIS

Traffic Impact Analysis

Clements Ranch

Located on the Northeast Quadrant of Lovers Lane and Caldwell Avenue

In the City of Visalia, California

Prepared for

QK, Inc.
601 Pollasky Avenue, Suite 301
Clovis, CA 93612

February 23, 2026

Project No. 013-028

Traffic Engineering, Transportation Planning, & Parking Solutions
516 W. Shaw Ave., Ste. 103
Fresno, CA 93710
Phone : (559) 570-8991
www.JLBtraffic.com

Traffic Engineering, Transportation Planning, & Parking Solutions

Traffic Impact Analysis

For the Clements Ranch located on the Northeast Quadrant of Lovers Lane and Caldwell Avenue

In the City of Visalia, California

February 23, 2026

This Traffic Impact Analysis Report has been prepared under the direction of a licensed Traffic Engineer. The licensed Traffic Engineer attests to the technical information contained therein and has judged the qualifications of any technical specialists providing engineering data from which recommendations, conclusions and decisions are based.

Prepared by:

Jose Luis Benavides, PE, TE
President

Traffic Engineering, Transportation Planning, & Parking Solutions
516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
Phone: (559) 570-8991
www.JLBtraffic.com

Table of Contents

Introduction and Summary 1
Introduction 1
Summary 2
Existing Traffic Conditions 2
Opening Year No Project Traffic Conditions 2
Opening Year plus Phase 1 Traffic Conditions 2
Cumulative 5-Year No Project Traffic Conditions 3
Cumulative 5-Year plus Phase 1 Traffic Conditions 3
Cumulative 5-Year plus Buildout Traffic Conditions 3
Queuing Analysis 3
Project's Equitable Fair Share 3
Scope of Work 4
Study Facilities 4
Study Intersections 4
Study Scenarios 5
Existing Traffic Conditions 5
Opening Year No Project Traffic Conditions 5
Opening Year plus Phase 1 Traffic Conditions 5
Cumulative 5-Year No Project Traffic Conditions 5
Cumulative 5-Year plus Phase 1 Project Traffic Conditions 6
Cumulative 5-Year plus Buildout Project Traffic Conditions 6
LOS Methodology 7
LOS Thresholds 7
Operational Analysis Assumptions and Defaults 8
Existing Traffic Conditions 9
Roadway Network 9
Collision Analysis 10
Traffic Signal Warrants 11
Results of Existing Level of Service Analysis 11
Opening Year No Project Traffic Conditions 15
Traffic Signal Warrants 15

Roadway Network 15
Results of Opening Year No Project Level of Service Analysis 15
Opening Year plus Phase 1 Traffic Conditions 18
Project Description 18
Project Access 18
Corner Sight Distance 18
Trip Generation 19
Trip Distribution 19
Bikeways 19
Transit 19
Safe Routes to School 20
Traffic Signal Warrants 21
Roadway Network 21
Results of Opening Year plus Phase 1 Level of Service Analysis 21
Cumulative 5-Year No Project Traffic Conditions 26
Traffic Signal Warrants 26
Roadway Network 26
Results of Cumulative 5-Year No Project Level of Service Analysis 26
Cumulative 5-Year plus Phase 1 Traffic Conditions 29
Traffic Signal Warrants 29
Roadway Network 29
Results of Cumulative 5-Year plus Phase 1 Level of Service Analysis 29
Cumulative 5-Year plus Buildout Traffic Conditions 32
Trip Generation 32
Trip Distribution 32
Traffic Signal Warrants 32
Roadway Network 32
Results of Cumulative 5-Year plus Buildout Level of Service Analysis 33
Project Only Trip Assignment to State Facilities 34
Queuing Analysis 38
Project's Pro-Rata Fair Share of Future Transportation Improvements 44
Conclusions and Recommendations 45
Existing Traffic Conditions 45
Opening Year No Project Traffic Conditions 45

Opening Year plus Phase 1 Traffic Conditions 45
Cumulative 5-Year No Project Traffic Conditions 46
Cumulative 5-Year plus Phase 1 Traffic Conditions 47
Cumulative 5-Year plus Buildout Traffic Conditions 47
Queuing Analysis 48
Project's Equitable Fair Share 48
Study Participants 49
References 50

List of Figures

Figure 1: Vicinity Map **13**
Figure 2: Existing - Traffic Volumes, Geometrics and Controls **14**
Figure 3: Opening Year No Project – Traffic Volumes, Geometrics and Controls **17**
Figure 4: Project Site Plan **23**
Figure 5: Project Only Trips – Phase 1 ..... **24**
Figure 6: Opening Year plus Phase 1 - Traffic Volumes, Geometrics and Controls **25**
Figure 7: Cumulative 5-Year No Project - Traffic Volumes, Geometrics and Controls **28**
Figure 8: Cumulative 5-Year plus Phase 1 - Traffic Volumes, Geometrics and Controls **31**
Figure 9: Project Only Trips – Phase 2 ..... **35**
Figure 10: Cumulative 5-Year plus Buildout - Traffic Volumes, Geometrics and Controls **36**
Figure 11: State Route 198 at Lovers Lane – Project Only Trips **37**

List of Tables

Table I: Three-Year (2022-2024) Intersection Collision Analysis **10**
Table II: Existing Intersection LOS Results **12**
Table III: Opening Year No Project Intersection LOS Results **16**
Table IV: Phase 1 Trip Generation **19**
Table V: Opening Year plus Phase 1 Intersection LOS Results **22**
Table VI: Cumulative 5-Year No Project Intersection LOS Results **27**
Table VII: Cumulative 5-Year plus Phase 1 Intersection LOS Results **30**
Table VIII: Phase 2 Trip Generation **32**
Table IX: Cumulative 5-Year plus Buildout Intersection LOS Results **34**
Table X: Queuing Analysis **39**
Table XI: Queuing Analysis (AASHTO Calculated) **42**
Table XII: Single-Family Residential Fair Share of Future Roadway Improvements **44**
Table XIII: Multi-Family Residential Fair Share of Future Roadway Improvements **44**

List of Appendices

Appendix A: Scope of Work
Appendix B: Traffic Counts
Appendix C: Traffic Modeling
Appendix D: Methodology
Appendix E: Collision Data
Appendix F: Existing Traffic Conditions
Appendix G: Opening Year No Project Traffic Conditions
Appendix H: Corner Sight Distance
Appendix I: Opening Year plus Phase 1 Traffic Conditions
Appendix J: Cumulative 5-Year No Project Traffic Conditions
Appendix K: Cumulative 5-Year plus Phase 1 Traffic Conditions
Appendix L: Cumulative 5-Year plus Buildout Traffic Conditions
Appendix M: Traffic Signal Warrants

Introduction and Summary

Introduction

This **Report** describes a **Traffic Impact Analysis (TIA)** prepared by **JLB Traffic Engineering, Inc. (JLB)** for the **Clements Ranch (Project)** located on the northeast quadrant of Lovers Lane at Caldwell Avenue in the City of Visalia. The Project proposes to develop the site with a mix of single-family (292 dwelling units) and multi-family residential (375 dwelling units) dwelling units. Based on information provided to JLB, the Project will require a General Plan Amendment to shift densities within the Project. Figure 1 shows the location of the proposed Project site relative to the surrounding roadway network.

The purpose of the TIA is to evaluate the potential on-site and off-site traffic impacts, identify short-term and long-term roadway needs, determine potential roadway improvement measures and identify any critical traffic issues that should be addressed in the on-going planning process. The TIA primarily focused on evaluating traffic conditions at study intersections that may potentially be impacted by the proposed Project. The Scope of Work was prepared via consultation with City of Visalia, County of Tulare and Caltrans staff.

Summary

The potential traffic impacts of the proposed Project were evaluated in accordance with the standards set forth by the Level of Service (LOS) policies of the City of Visalia, County of Tulare and Caltrans.

Existing Traffic Conditions

- JLB conducted a search of the Statewide Integrated Traffic Records System (SWITRS) to obtain collision reports for the most recent three-year period. Based on a review of the collision reports, a total of 26 collisions were reported within the influence zone of the study intersections. All study intersections have experienced a relatively low number of collisions per year. Details of these collisions are presented later in this Report.
- At present, the study intersection of Lovers Lane at Walnut Avenue exceeds its LOS threshold during the AM peak period. Additional details as to the recommended improvements for this intersection are presented later in this Report.

Opening Year No Project Traffic Conditions

- Under this scenario, the study intersection of Lovers Lane at Walnut Avenue is projected to exceed its LOS threshold during the AM peak period. Additional details as to the recommended improvements for this intersection are presented later in this Report.

Opening Year plus Phase 1 Traffic Conditions

- To ensure that motorists have the appropriate corner sight distance, the Project should ensure that it does not build any obstructions greater than two (2) feet above street grade within the hatched triangular areas as depicted in the figures included in Appendix H.
- In Phase 1, the Project is estimated to generate approximately 2,654 daily trips, 204 AM peak hour trips and 272 PM peak hour trips.
- JLB analyzed the location of the existing and proposed roadways and access points relative to those in the vicinity of the Project site. A review of the existing and proposed roadways and access points indicated that they are located at points that minimize traffic operational impacts to existing and future roadway networks.
- It is recommended that the Project construct a Class II Bikeway along the Project's frontage to Lovers Lane and a Class I Bikeway along the Projects frontage to Cameron Creek.
- It is recommended that the Project, City of Visalia and VUSD work together to implement a plan which completes a walkway surface along the south side of K Avenue on the missing stretch of sidewalk between Pinkham Street and Lovers Lane.
- Under this scenario, the study intersections of Lovers Lane at Walnut Avenue and Lovers Lane at Sunnyside Avenue are projected to exceed their LOS threshold during one of the peak periods. Additional details as to the recommended improvements for these intersections are presented later in this Report.

Cumulative 5-Year No Project Traffic Conditions

- Under this scenario, the study intersection of Road 148 at Caldwell Avenue is projected to exceed its LOS threshold during the AM peak period. Additional details as to the recommended improvements for this intersection are presented later in this Report.

Cumulative 5-Year plus Phase 1 Traffic Conditions

- Under this scenario, the study intersections of Lovers Lane at Sunnyside Avenue and Road 148 at Caldwell Avenue are projected to exceed their LOS threshold during one or both peak periods. Additional details as to the recommended improvements for these intersections are presented later in this Report.

Cumulative 5-Year plus Buildout Traffic Conditions

- In Phase 2, the Project is estimated to generate approximately 2,329 daily trips, 154 AM peak hour trips and 195 PM peak hour trips.
- Under this scenario, the study intersections of Lovers Lane at Sunnyside Avenue and Road 148 at Caldwell Avenue are projected to exceed their LOS threshold during one or both peak periods. Additional details as to the recommended improvements for these intersections are presented later in this Report.

Queuing Analysis

- It is recommended that the City consider left-turn and right-turn lane storage lengths as indicated in the Queuing Analysis.

Project's Equitable Fair Share

- It is recommended that the Project components contribute their equitable Fair Share as presented in Table XII and Table XIII for those future improvements which are currently not covered by an existing impact fee program, maintenance funds or grant funds.

Scope of Work

The TIA focused on evaluating traffic conditions at study intersections that may potentially be impacted by the proposed Project. On August 19, 2026, a Draft Scope of Work for the preparation of a TIA for this Project was provided to City of Visalia, County of Tulare and Caltrans staff for their review and comment. The lead and responsible agencies had the opportunity to review and comment on the Draft Scope of Work.

On August 20, 2025, the County of Tulare responded requesting for the intersection of Road 148 at Caldwell Avenue be included as a study intersection. On September 2, 2025 the City of Visalia responded requesting the inclusion any project driveway connection to Sunnyside Avenue as a study intersection, perform Warrants 1 and Warrant 2 in the opening years scenarios and corner sight distance evaluations for all project driveway intersections. On September 25, 2026, Caltrans requested that the Existing conditions without improvements be included and a trip trace for the State Route 198 at Lovers Lane interchange.

Based on the comments received, this TIA includes the study intersection of Road 148 at Caldwell Avenue, project driveways along Sunnyside Avenue, Warrant 1 and Warrant 2 in all study scenarios, corner sight distance evaluations for all project driveways and a trip trace for the State Route 198 at Lovers Lane interchange. The Existing conditions without improvements was originally included in the scope. The Draft Scope of Work and the comments received from the responsible agencies are included in Appendix A.

Study Facilities

The existing intersection peak hour turning movement counts were conducted at the study facilities in September 2025 and October 2025, while schools in the vicinity of the Project site were in session. The intersection turning movement counts included pedestrian and bicycle volumes. The traffic counts for the existing study facilities are contained in Appendix B. The existing intersection turning movement volumes, intersection geometrics and traffic controls are illustrated in Figure 2.

Study Intersections

1. Lovers Lane / Walnut Avenue
2. Pinkham Street / K Avenue
3. Lovers Lane / K Avenue
4. Lovers Lane / Project Driveway A
5. Lovers Lane / Sunnyside Avenue
6. Project Driveway B / Sunnyside Avenue
7. Project Driveway C / Sunnyside Avenue
8. Project Driveway D / Sunnyside Avenue
9. Lovers Lane / Project Driveway E
10. Pinkham Street / Caldwell Avenue
11. Lovers Lane / Caldwell Avenue
12. Road 148 / Caldwell Avenue

Study Scenarios

Existing Traffic Conditions

This scenario evaluates the Existing Traffic Conditions based on existing traffic volumes and roadway conditions from field surveys and traffic counts conducted in September 2025 and October 2025.

Opening Year No Project Traffic Conditions

This scenario evaluates total traffic volumes and roadway conditions based on the Opening Year No Project Traffic Conditions. The opening year for this Project is anticipated to be 2028. The Opening Year No Project traffic volumes were obtained by using a combination of a portion of the TCAG model (Base Year 2015 and Cumulative Year 2046), a portion of the near term traffic and Existing traffic volumes. Under this scenario, the increment method was utilized to determine the growth in the area. The Tulare County Association of Governments (TCAG) Project Select Zone results are contained in Appendix C.

Opening Year plus Phase 1 Traffic Conditions

This scenario evaluates total traffic volumes and roadway conditions based on the Opening Year plus Phase 1 Traffic Conditions. The Opening Year plus Phase 1 traffic volumes were obtained by adding the Phase 1 Project Only Trips to the Opening Year No Project traffic volumes. The Phase 1 Project Only Trips to the study facilities were developed based on existing travel patterns, the Project Select Zone, the surrounding roadway network, engineering judgment, existing residential and commercial densities and the *Visalia General Plan* Circulation Element in the vicinity of the Project site. The Tulare County Association of Governments (TCAG) Project Select Zone results are contained in Appendix C.

Cumulative 5-Year No Project Traffic Conditions

This scenario evaluates total traffic volumes and roadway conditions based on the Cumulative 5-Year No Project Traffic Conditions. The cumulative 5-year for this Project is anticipated to be 2033. The Cumulative 5-Year No Project traffic volumes were obtained by using a combination of a portion of the TCAG model (Base Year 2015 and Cumulative Year 2046), the near term traffic and Existing traffic volumes. Under this scenario, the increment method was utilized to determine the growth in the area. The Tulare County Association of Governments (TCAG) Project Select Zone results are contained in Appendix C.

Cumulative 5-Year plus Phase 1 Project Traffic Conditions

This scenario evaluates total traffic volumes and roadway conditions based on the Cumulative 5-Year plus Phase 1 Traffic Conditions. The cumulative 5-year for this Project is anticipated to be 2033. The Cumulative 5-Year plus Phase 1 traffic volumes were obtained by adding the Phase 1 Project Only Trips to the Cumulative 5-Year No Project traffic volumes. The Phase 1 Project Only Trips to the study facilities were developed based on existing travel patterns, the Project Select Zone, the surrounding roadway network, engineering judgment, existing residential and commercial densities and the *Visalia General Plan* Circulation Element in the vicinity of the Project site. The Tulare County Association of Governments (TCAG) Project Select Zone results are contained in Appendix C.

Cumulative 5-Year plus Buildout Project Traffic Conditions

This scenario evaluates total traffic volumes and roadway conditions based on the Cumulative 5-Year plus Buildout Project Traffic Conditions. The Cumulative 5-Year plus Buildout traffic volumes were obtained by adding the Phase 2 Project Only Trips to the Cumulative 5-Year plus Phase 1 traffic volumes. The Phase 2 Project Only Trips to the study facilities were developed based on existing travel patterns, the Project Select Zone, the surrounding roadway network, engineering judgment, existing residential and commercial densities and the *Visalia General Plan* Circulation Element in the vicinity of the Project site. The Tulare County Association of Governments (TCAG) Project Select Zone results are contained in Appendix C.

LOS Methodology

LOS is a qualitative index of the performance of an element of the transportation system. LOS is a rating scale running from "A" to "F", with "A" indicating no congestion of any kind and "F" indicating unacceptable congestion and delays. LOS in this study describes the operating conditions for signalized and unsignalized intersections.

The *Highway Capacity Manual* (HCM) 6th Edition is the standard reference published by the Transportation Research Board and contains the specific criteria and methods to be used in assessing LOS. Lane configurations not reflective of existing conditions are a result of software limitations and thus their LOS output represents a worst-case scenario. Synchro software was used to define LOS in this study. Details regarding these calculations are included in Appendix D.

While LOS is no longer the criteria of significance for traffic impacts under CEQA, the *Visalia General Plan* includes policies that utilize LOS to determine traffic-related improvements that are needed for a project.

LOS Thresholds

The *Tulare County General Plan* has established LOS D as the acceptable level of traffic congestion on county roads and streets that fall entirely outside the Sphere of Influence (SOI) of a City. For those areas that fall within the sphere of influence (SOI) of a City, the LOS threshold of the city is used in this Report. In this TIA, the study intersection of Road 148 at Caldwell Avenue falls outside of the City of Visalia SOI. Therefore, the County of Tulare LOS threshold of LOS D is utilized for this intersection.

The *Visalia General Plan* has established LOS D as the acceptable level of traffic congestion on most major streets that fall within the SOI of the City of Visalia. In this TIA, all but one study intersection fall completely within the City of Visalia SOI. Therefore, the City of Visalia LOS threshold of LOS D is utilized for all study intersections except for the intersection of Road 148 at Caldwell Avenue.

Caltrans no longer considers delay as a significant impact to the environment for land use projects and plans. According to the Caltrans document VMT Focused Transportation Impact Study Guidelines dated May 2020, Caltrans review of land use projects and plans is focused on a VMT metric consistent with CEQA. In this TIA, all study intersections fall within the City of Visalia or County of Tulare SOI.

Operational Analysis Assumptions and Defaults

The following operational analysis values, assumptions and defaults were used in this study to ensure a consistent analysis of LOS among the various scenarios.

- Existing Caltrans traffic signals utilize the Signal Timing Plans.
- Yellow time consistent with the *California Manual on Uniform Traffic Control Devices* (CA MUTCD) based on approach speeds (Caltrans, 2026).
- Yellow time of 3.2 seconds for left-turn phases.
- All-red clearance intervals of 1.0 second for all phases.
- Walk intervals of 7.0 seconds.
- Flashing Don't Walk based on 3.5 feet/second walking speed with yellow plus all-red clearance subtracted.
- The number of observed pedestrians at existing intersections is utilized under all study scenarios.
- An average of 10 pedestrian calls per hour is utilized at study intersections under traffic signal control with crosswalks.
- The existing HVF or a minimum of 3 percent are utilized under all study scenarios or a minimum of 3 percent.
- A HVF of 3 percent is utilized for all new study intersections.
- The observed approach Peak Hour Factor (PHF) is utilized under all scenarios.
- A PHF of 0.88 is utilized for all new study intersections.

Existing Traffic Conditions

Roadway Network

The Project site and surrounding study area are illustrated in Figure 1. Important roadways serving the Project are discussed below.

Pinkham Street is an existing north-south two-lane undivided collector in the vicinity of the Project site. In this area, Pinkham Street exists between State Route 198 and Caldwell Avenue. The *Visalia General Plan* Circulation Element designates Pinkham Street as a collector between Avenue 320 and Avenue 272.

Lovers Lane is an existing north-south four-lane divided arterial adjacent to the Project site. In this area, Lovers Lane exists between Saint Johns River and Avenue 272. The *Visalia General Plan* Circulation Element designates Lovers Lane as an arterial between Avenue 320 and Avenue 272.

Road 148 is an existing north-south two-lane undivided roadway in the vicinity of the Project site. In this area, Road 148 exists between Avenue 288 and Avenue 272. The *Visalia General Plan* Circulation Element designates Lovers Lane as a local roadway between Avenue 288 and Avenue 272.

Walnut Avenue is an existing east-west two-lane undivided arterial in the vicinity of the Project site. In this area, Walnut Avenue exists between Road 86 through the eastern boundary of the City of Visalia. The *Visalia General Plan* Circulation Element designates Walnut Avenue as an arterial between Road 86 through the eastern boundary of the City of Visalia.

K Avenue is an existing east-west two-lane undivided collector in the vicinity of the Project site. In this area, K Avenue exists between Santa Fe Street and Lovers Lane. The *Visalia General Plan* Circulation Element designates K Avenue as a collector between Santa Fe Street and Road 148.

Sunnyside Avenue is an existing east-west two-lane undivided local roadway adjacent to the Project site. In this area, Sunnyside Avenue exists in segments throughout the City of Visalia SOI. The *Visalia General Plan* Circulation Element designates Sunnyside Avenue as a local roadway throughout the City of Visalia SOI. As part of this Project, Sunnyside Avenue will be extended east of Lovers Lane through the Project site. This Project reassigns Sunnyside Avenue as a collector.

Caldwell Avenue is an existing east-west divided arterial in the vicinity of the Project site. In this area, Caldwell Avenue exists throughout the City of Visalia SOI. The *Visalia General Plan* Circulation Element designates Caldwell Avenue as an arterial throughout the City of Visalia SOI.

Collision Analysis

JLB conducted a search of the Statewide Integrated Traffic Reporting System (SWITRS) to obtain collision reports for the most recent complete three-year period (January 1st, 2022 to December 31st, 2024). The SWITRS "is a database that serves as a means to collect and process data gathered from a collision scene. The internet SWITRS application is a tool by which the California Highway Patrol (CHP) staff and members of its Allied Agencies throughout California can request several types of statistical reports in an electronic format." All collision summary reports between January 1st, 2022 and December 31st, 2024 were included in the collision analysis. In the three-year period, a total of 26 collisions were reported within the influence zone (assumed to be within 250 feet) of the study intersections. The SWITRS collision data are found in Appendix E.

Table I summarizes the type of collision, severity, violation, and identifies involvement with another vehicle, a pedestrian/bicyclist or a fixed object. Based on the three-year collision data contained within SWITRS, all study intersections have experienced a relatively low number of collisions per year. After thorough review of the data contained within the collision reports for the three-year analysis period, no additional changes are recommended to the study intersections as a result of collision activity.

Table I: Three-Year (2022-2024) Intersection Collision Analysis

ID	Intersection	Number of Collisions	Type of Collision						Severity					Type of Violation						Motor Vehicle Involved with…			
			Broadside	Rear End	Head-On	Hit Object	Sideswipe	Other	Fatal	Severe Injury	Other Visible Injury	Complaint of Pain	Property Damage Only	Traffic Signals & Signs	Right of Way	Unsafe Speed	Improper Turning	Driving Under Influence	Other	Pedestrian/Bicyclist	Other Motor Vehicle	Fixed Object	Other
1	Lovers Lane / Walnut Avenue	**5**	2	1	1	1	-	-	-	-	-	2	3	1	-	-	1	3	-	-	4	1	-
2	Pinkham Street / K Avenue	**3**	1	-	2	-	-	-	-	-	-	2	1	1	-	-	1	-	1	-	1	2	-
3	Lovers Lane / K Avenue	**2**	-	-	-	-	2	-	-	-	-	-	2	1	-	-	1	-	1	-	2	-	-
5	Lovers Lane / Sunnyside Avenue	**1**	1	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	1	-	-
10	Pinkham Street / Caldwell Avenue	**-**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	Lovers Lane / Caldwell Avenue	**9**	4	3	-	1	1	-	-	-	-	4	5	3	1	2	1	2	-	-	8	1	-
12	Road 148 / Caldwell Avenue	**6**	3	2	-	1	-	-	-	-	2	3	1	1	-	2	1	2	-	-	5	1	-
Totals		**26**	**11**	**6**	**3**	**3**	**3**	**-**	**-**	**-**	**2**	**12**	**12**	**6**	**4**	**4**	**4**	**7**	**1**	**-**	**21**	**5**	**-**

Traffic Signal Warrants

The CA MUTCD indicates that an engineering study of traffic conditions, pedestrian characteristics and physical features of an intersection shall be conducted to determine whether installation of traffic signal controls is justified. The CA MUTCD provides a total of nine (9) warrants to evaluate the need for traffic signal controls. These warrants include 1) Eight-Hour Vehicular Volume, 2) Four-Hour Vehicular Volume, 3) Peak Hour, 4) Pedestrian Volume, 5) School Crossing, 6) Coordinated Signal System, 7) Crash Experience, 8) Roadway Network and 9) Intersection Near a Grade Crossing. Signalization of an intersection may be appropriate if one or more of the signal warrants are satisfied. However, the CA MUTCD also states that "[t]he satisfaction of a signal warrant or warrants shall not in itself require the installation of a traffic control signal" (Caltrans, 2026).

If traffic signal warrants are satisfied when a LOS threshold impact is identified at an unsignalized intersection, then installation of a traffic signal control may serve as an improvement measure. For instances where traffic signal warrants are satisfied, traffic signal control is not considered to be the default improvement measure. Since installation of a traffic signal control typically requires construction of additional lanes and increase delay to the major street, an attempt is made to improve the intersection approach lane geometrics in order to improve its LOS while maintaining the existing intersection controls. If the additional lanes did not result in acceptable LOS at the intersection, then in those cases implementation of a traffic signal control would be considered.

Warrants 1, 2 and 3 were prepared for the unsignalized intersections under the Existing Traffic Conditions scenario. At present, Warrant 1 is not met for any study intersection. Warrant 2 is met for the study intersection of Lovers Lane at K Avenue. Warrant 3 is not met for any study intersection. Based on the operational analysis and engineering judgement, it is not recommended that any unsignalized intersection be signalized in this scenario. These warrants are contained in Appendix M.

Results of Existing Level of Service Analysis

Figure 2 illustrates the Existing Traffic Conditions turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Existing Traffic Conditions scenario are provided in Appendix F. Table II presents a summary of the Existing peak hour LOS at the study intersections.

At present, the study intersection of Lovers Lane at Walnut Avenue exceeds its LOS threshold during the AM peak period. It is recommended that the following be considered for implementation to improve the LOS at this intersection.

- Lovers Lane / Walnut Avenue
  - Add an eastbound left-turn lane;
  - Modify the eastbound left-through lane to a through lane;
  - Add a westbound left-turn lane;
  - Modify the westbound left-through-right lane to a through-right lane;
  - Modify the phasing of the intersection to protective left-turn phasing in all directions; and
  - Modify the traffic signal to accommodate the modified geometrics.

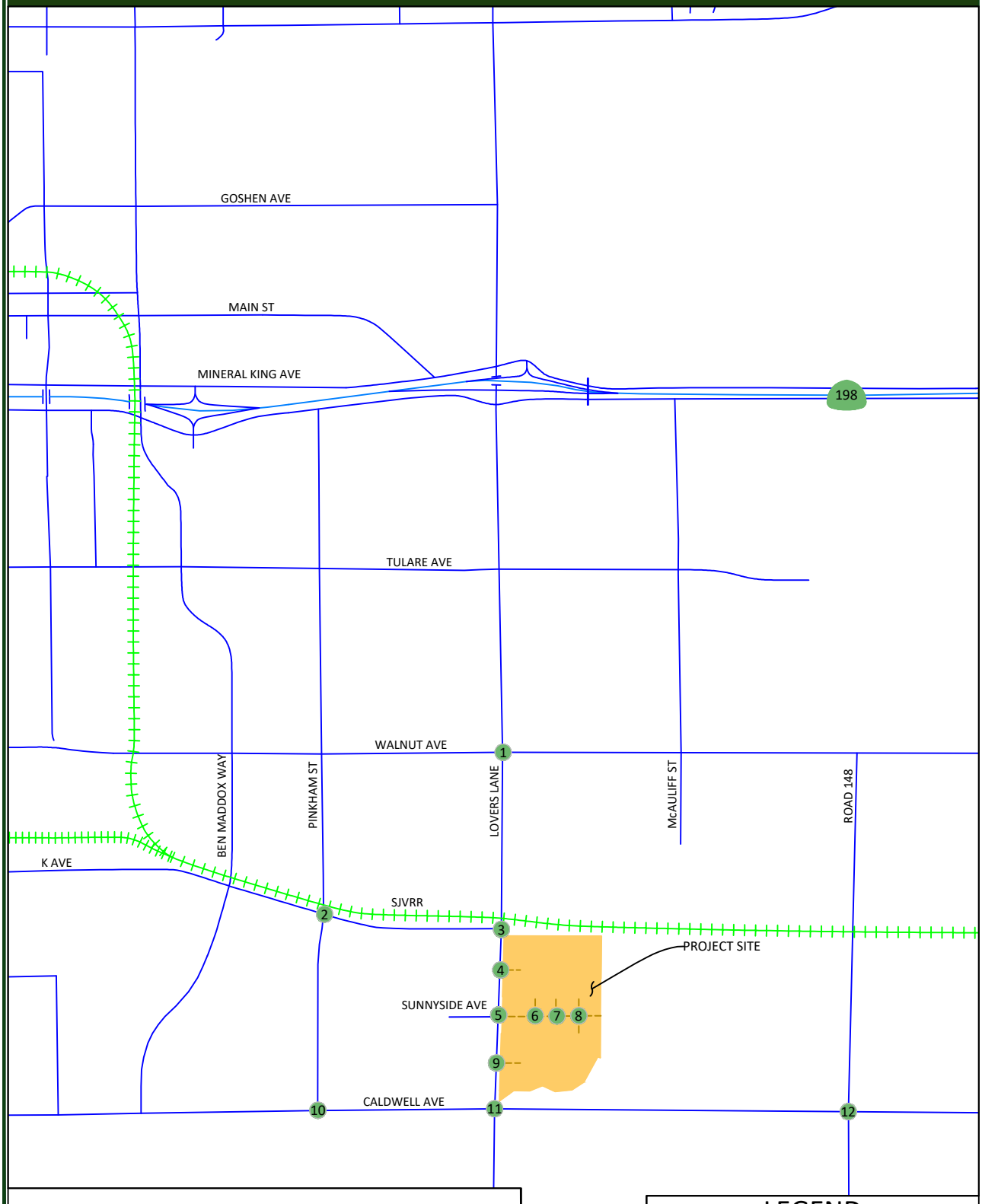
Table II: Existing Intersection LOS Results

ID	Intersection	Intersection Control	AM (7 – 9) Peak Hour		PM (4 – 6) Peak Hour	
			Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
1	Lovers Lane / Walnut Avenue	Traffic Signal	**60.3**	**E**	44.6	D
		Traffic Signal (Improved)	32.4	C	27.2	C
2	Pinkham Street / K Avenue	All-Way Stop	12.5	B	9.4	A
3	Lovers Lane / K Avenue	Two-Way Stop	14.2	B	13.4	B
4	Lovers Lane / Driveway A	Does not exist	-	-	-	-
5	Lovers Lane / Sunnyside Avenue	Two-Way Stop	19.4	C	17.9	C
6	Driveway B / Sunnyside Avenue	Does not exist	-	-	-	-
7	Driveway C / Sunnyside Avenue	Does not exist	-	-	-	-
8	Driveway D / Sunnyside Avenue	Does not exist	-	-	-	-
9	Lovers Lane / Driveway E	Does not exist	-	-	-	-
10	Pinkham Street / Caldwell Avenue	Two-Way Stop	12.6	B	11.8	B
11	Lovers Lane / Caldwell Avenue	Traffic Signal	25.2	C	26.1	C
12	Road 148 / Caldwell Avenue	Two-Way Stop	24.1	C	16.0	C

Note: LOS = Level of Service based on average delay on signalized intersections and All-Way STOP Controls
LOS for two-way and one-way STOP controlled intersections are based on the worst approach/movement of the minor street.

Clements Ranch - City of Visalia
Vicinity Map

Figure 1



LEGEND

= STUDY INTERSECTION

– – – = FUTURE ROADWAY

N

Not To Scale

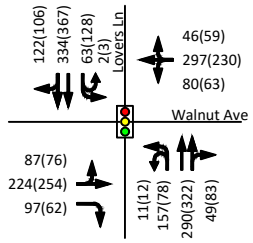
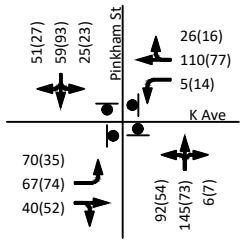
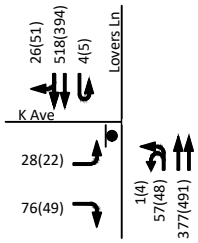
JLB TRAFFIC ENGINEERING, INC.

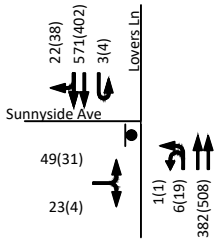
516 W. Shaw Ave., Ste. 103, Fresno, CA 93704

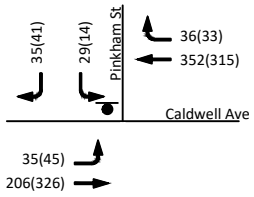
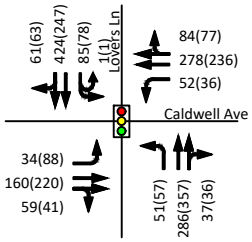
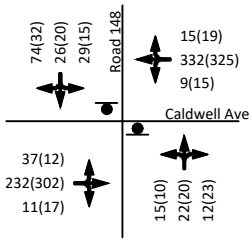
PHONE:(559) 570-8991, EMAIL: info@JLBtraffic.com, www.JLBtraffic.com

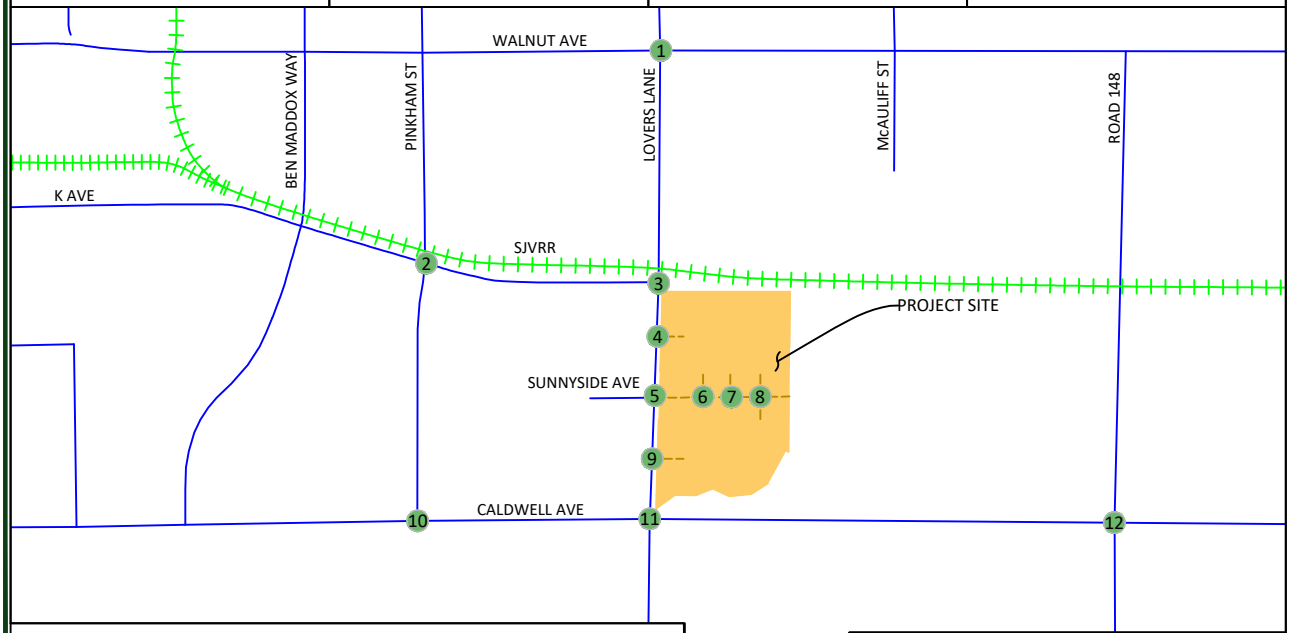
Clements Ranch - City of Visalia
Existing - Traffic Volumes, Geometrics, and Controls

Figure 2

1. Lovers Ln & Walnut Ave	2. Pinkham St & K Ave	3. Lovers Ln & K Ave	4. Lovers Ln & Project Driveway A
			DOES NOT EXIST

5. Lovers Ln & Sunnyside Ave	6. Project Driveway B & Sunnyside Ave	7. Project Driveway C & Sunnyside Ave	8. Project Driveway D & Sunnyside Ave
	DOES NOT EXIST	DOES NOT EXIST	DOES NOT EXIST

9. Lovers Ln & Project Driveway E	10. Pinkham St & Caldwell Ave	11. Lovers Ln & Caldwell Ave	12. Road 148 & Caldwell Ave
DOES NOT EXIST			



JLB TRAFFIC ENGINEERING, INC.
516 W. Shaw Ave., Ste. 103, Fresno, CA 93704
PHONE:(559) 570-8991, EMAIL: info@JLBtraffic.com, www.JLBtraffic.com

LEGEND

- (#) = STUDY INTERSECTION
- = FUTURE ROADWAY
- = STOP SIGN
- = TRAFFIC SIGNAL
- XX = AM PEAK HOUR TRIPS
- (XX) = PM PEAK HOUR TRIPS

N

Not To Scale

Opening Year No Project Traffic Conditions

Traffic Signal Warrants

Warrants 1, 2 and 3 were prepared for the unsignalized intersections under the Opening Year No Project Traffic Conditions scenario. Under this scenario, Warrant 1 is not met for any study intersection. Warrant 2 is projected to be met for the study intersection of Lovers Lane at K Avenue. Warrant 3 is not met for any study intersection. Based on the operational analysis and engineering judgement, it is not recommended that any unsignalized intersection be signalized in this scenario. These warrants are contained in Appendix M.

Roadway Network

The Opening Year No Project Traffic Conditions scenario assumes the same roadway geometrics and traffic controls as those assumed in the Existing Traffic Conditions scenario. It is anticipated that the intersection of Lovers Lane at Walnut Avenue will be constructed with additional lanes in the Year 2028, but these additional lanes were not assumed to take place in this scenario as a conservative measure. Figure 3 illustrates the assumed intersection geometrics and traffic controls for these intersections under this scenario.

Results of Opening Year No Project Level of Service Analysis

Figure 3 illustrates the Opening Year No Project turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Year Opening Year No Project Traffic Conditions scenario are provided in Appendix G. Table III presents a summary of the Opening Year No Project peak hour LOS at the study intersections.

Under this scenario, the study intersection of Lovers Lane at Walnut Avenue is projected to continue exceeding its LOS threshold during the AM peak period. It is recommended that the following be considered for implementation to improve the LOS at this intersection.

- Lovers Lane / Walnut Avenue
  - Add an eastbound left-turn lane;
  - Modify the eastbound left-through lane to a through lane;
  - Add a westbound left-turn lane;
  - Modify the westbound left-through-right lane to a through-right lane;
  - Modify the phasing of the intersection to protective left-turn phasing in all directions; and
  - Modify the traffic signal to accommodate the modified geometrics.

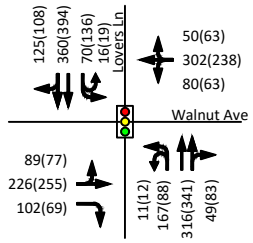
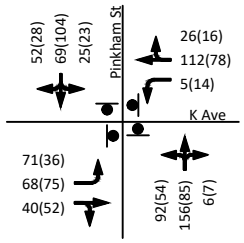
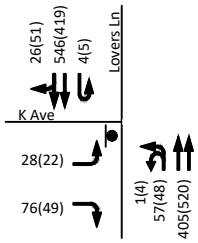
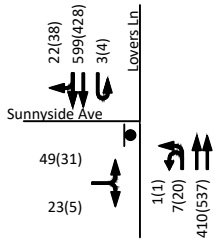
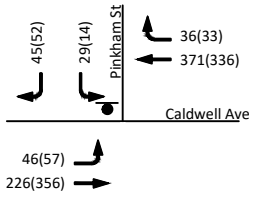
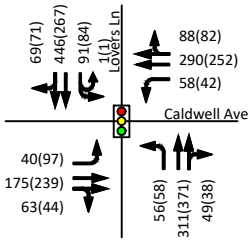
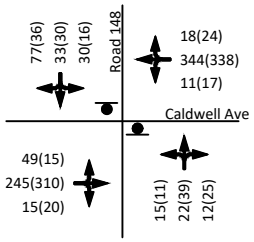
Table III: Opening Year No Project Intersection LOS Results

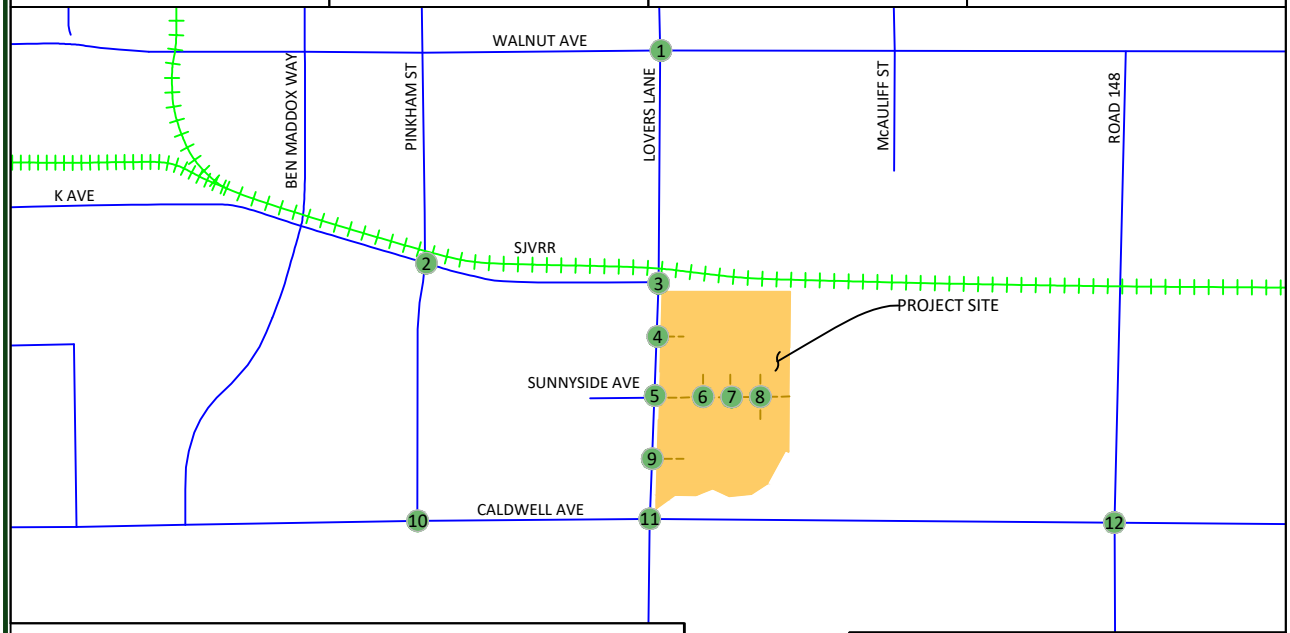
ID	Intersection	Intersection Control	AM (7 – 9) Peak Hour		PM (4 – 6) Peak Hour	
			Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
1	Lovers Lane / Walnut Avenue	Traffic Signal	**65.3**	**E**	47.0	D
		Traffic Signal (Improved)	34.8	C	28.4	C
2	Pinkham Street / K Avenue	All-Way Stop	13.1	B	9.6	A
3	Lovers Lane / K Avenue	Two-Way Stop	14.7	B	13.9	B
4	Lovers Lane / Driveway A	Does not exist	-	-	-	-
5	Lovers Lane / Sunnyside Avenue	Two-Way Stop	20.8	C	18.8	C
6	Driveway B / Sunnyside Avenue	Does not exist	-	-	-	-
7	Driveway C / Sunnyside Avenue	Does not exist	-	-	-	-
8	Driveway D / Sunnyside Avenue	Does not exist	-	-	-	-
9	Lovers Lane / Driveway E	Does not exist	-	-	-	-
10	Pinkham Street / Caldwell Avenue	Two-Way Stop	13.0	B	12.1	B
11	Lovers Lane / Caldwell Avenue	Traffic Signal	25.9	C	26.7	C
12	Road 148 / Caldwell Avenue	Two-Way Stop	31.6	D	18.6	C

Note: LOS = Level of Service based on average delay on signalized intersections and All-Way STOP Controls
LOS for two-way and one-way STOP controlled intersections are based on the worst approach/movement of the minor street.

Clements Ranch - City of Visalia
Opening Year No Project - Traffic Volumes, Geometrics, and Controls

Figure 3

1. Lovers Ln & Walnut Ave	2. Pinkham St & K Ave	3. Lovers Ln & K Ave	4. Lovers Ln & Project Driveway A
			DOES NOT EXIST
5. Lovers Ln & Sunnyside Ave	**6. Project Driveway B & Sunnyside Ave**	**7. Project Driveway C & Sunnyside Ave**	**8. Project Driveway D & Sunnyside Ave**
	DOES NOT EXIST	DOES NOT EXIST	DOES NOT EXIST
9. Lovers Ln & Project Driveway E	**10. Pinkham St & Caldwell Ave**	**11. Lovers Ln Caldwell Ave**	**12. Road 148 & Caldwell Ave**
DOES NOT EXIST			



JLB TRAFFIC ENGINEERING, INC.
516 W. Shaw Ave., Ste. 103, Fresno, CA 93704
PHONE:(559) 570-8991, EMAIL: info@JLBtraffic.com, www.JLBtraffic.com

LEGEND

- (#) = STUDY INTERSECTION
- = FUTURE ROADWAY
- = STOP SIGN
- = TRAFFIC SIGNAL
- XX = AM PEAK HOUR TRIPS
- (XX) = PM PEAK HOUR TRIPS

N

Not To Scale

Opening Year plus Phase 1 Traffic Conditions

Project Description

Clements Ranch (Project) is located on the northeast quadrant of Lovers Lane at Caldwell Avenue in the City of Visalia. The Project proposes to develop the site with a mix of single-family (292 dwelling units) in Phase 1 and multi-family residential (375 dwelling units) in Phase 2. Based on information provided to JLB, the Project will require a General Plan Amendment to shift densities within the Project. Figure 4 illustrates the latest Project Site Plan.

Project Access

Access to and from the Project site will be from five (5) access points. Two (2) access points along Lovers Lane and three (3) access points along Sunnyside Avenue. The first access point (Driveway A) is located along the east side of Lovers Lane north of Sunnyside Avenue and serves the multifamily portion of the Project. This access is proposed to be limited to right-in and right-out access. The second access point (Driveway B) is located along the north side of Sunnyside Avenue east of Lovers Lane and serves the multifamily portion of the Project. This access is proposed to have full access. As the multifamily portion of this site plan has not been laid out, there is no exact location of these driveways. The third access point (Driveway C) is located along the north side of Sunnyside Avenue approximately 800’ east of Lovers Lane and serves the single-family portion of the Project. This access is proposed to have a full access. The fourth access point (Driveway D) is located along the north and south sides of Sunnyside Avenue approximately 1,100’ east of Lovers Lane and serves the single-family portion of the Project. This access is proposed to have a full access. The fifth access point (Driveway E) is located along the east side of Lovers Lane approximately 550’ south of Sunnyside Avenue and serves the single-family portion of the Project. This access is proposed to be limited to right-in and right-out access.

JLB analyzed the location of the existing and proposed roadways and access points relative to those in the vicinity of the Project site. A review of the existing and proposed roadways and access points indicated that they are located at points that minimize traffic operational impacts to existing and future roadway networks. A Project Site Plan can be found in Figure 4.

Corner Sight Distance

A Corner Sight Distance (CSD) Analysis was conducted by JLB pursuant to the guidelines within the Highway Design Manual (HDM). Based on *HDM*, at private driveways "the minimum Corner Sight Distance shall be equal to the stopping sight distance given in Table 201.1 . . .". The speed limit along Lovers Lane is 55 MPH and the speed limit of Sunnyside Avenue is assumed to be 30 MPH. Therefore, the CSD is 530’ for right-turns out of the driveways on Lovers Lane, 335’ for left-turns out of the driveways on Sunnyside Avenue and 290’ for right-turns out of the driveways on Sunnyside Avenue. Appendix H includes the CSD evaluations for the respective speeds on Lovers Lane and Sunnyside Avenue. These CSD figures display hatched areas where obstructions greater than two (2) feet above street grade should not be approved.

Trip Generation

Trip generation rates for the proposed Project were obtained from the 12th Edition of the *Trip Generation Manual* published by the Institute of Transportation Engineers (ITE). Table IV presents the trip generation for Phase 1 proposed Project with trip generation rates for Single-Family Detached Housing (210). In Phase 1, the Project is estimated to generate approximately 2,654 daily trips, 204 AM peak hour trips and 272 PM peak hour trips.

Table IV: Phase 1 Trip Generation

Land Use (ITE Code)	*Size*	*Unit*	*Daily*		*AM (7-9) Peak Hour*						*PM (4-6) Peak Hour*					
			Rate	*Total*	*Trip Rate*	*In*	*Out*	*In*	*Out*	*Total*	*Trip Rate*	*In*	*Out*	*In*	*Out*	*Total*
						%						*%*				
Single-Family Detached Housing (210)	292	d.u.	9.09	2,654	0.70	27	73	55	149	204	0.93	62	38	169	103	272
Total Driveway Trips				**2,654**				**55**	**149**	**204**				**169**	**103**	**272**

Note: d.u. = Dwelling Units

Trip Distribution

The Project Only Trips to the study intersections were developed based on existing travel patterns, the TCAG model output, the existing roadway network, engineering judgment, existing residential densities and the *Visalia General Plan* Circulation Element in the vicinity of the Project site. Figure 5 illustrates the trip distribution from Phase 1 (Single-Family Residential) to the study intersections.

Bikeways

There are Class I and Class III bikeways in the vicinity of the proposed Project site. The *Visalia ATP* recommends that Class I, Class II and Class III Bikeways be implemented adjacent to and in the vicinity of the Project site (City of Visalia, 2017). In the vicinity of and adjacent to the Project site, Class I Bikeways are planned on Cameron Creek and K Avenue. Class II Bikeways are planned on Lovers Lane, Caldwell Avenue and Walnut Avenue. Class III Bikeways along Walnut Avenue. Therefore, it is recommended that the Project construct a Class II Bikeway along the Project's frontage to Lovers Lane and a Class I Bikeway along the Projects frontage to Cameron Creek.

Transit

Visalia Transit and Tulare County Regional Transportation Agency (TCRTA) are the transit operators in this area of the City of Visalia. Visalia Transit has one transit route that operates in the vicinity of the proposed Project site. Route 9 operates on 45-minute intervals between 6:00 AM – 8:45 PM on weekdays and on 90-minute intervals between 8:00 AM – 6:15 PM on weekends. The nearest stop to the proposed Project site is located on the east side of Ben Maddox Way approximately 550' north of Walnut Avenue. Retention of the existing and expansion of future transit routes is dependent on transit ridership demand and available funding.

Safe Routes to School

Kindergarten through 12th grade students from the Project will be served by the Visalia Unified School District (VUSD). VUSD provides transportation for students who live excess of an established direct walking distance. The direct walking distance is 1 mile for kindergarten through 6th grade and 2.5 miles for 7th through 12th grades.

Based on attendance area boundaries at the time of the preparation of this TIA, elementary school students would attend Annie R. Mitchell Elementary School located on the southeast quadrant of Pinkham Street at Walnut Avenue. Annie R. Mitchell Elementary School is located a walking distance of 0.75 and 1.25 miles from the nearest and farthest home in the Project. Therefore, it is anticipated that the majority of elementary school students will need to walk, bike or be driven from the Project to the elementary school campus.

The most direct path from the Project to the Annie R. Mitchell Elementary School campus can begin from the west most end of the Project nearest to the respective student's home. Students would proceed west along Sunnyside Avenue until reaching the intersection of Lovers Lane at Sunnyside Avenue. The intersection of Sunnyside Avenue at Lovers Lane is projected to need signalization under this scenario. Therefore, students would utilize the future traffic signal and crosswalk(s) to get to the northwest corner of Lovers Lane at Sunnyside Avenue. Students would then proceed north along the west side of Lovers Lane until reaching the intersection of Lovers Lane at K Avenue. The intersection of Lovers Lane at K Avenue is controlled by a two-way stop with a marked crosswalk on the west leg. Students would proceed west along the south side of K Avenue until reaching the intersection of Pinkham Street at K Avenue. The intersection of Pinkham Street at K Avenue is controlled by an all-way stop with marked crosswalks on all legs. Students would proceed to cross the east leg to reach the northeast corner of this intersection. Students would proceed north along the east side Pinkham Street until reaching the nearest campus entrance.

Based on attendance area boundaries at the time of the preparation of this TIA, middle school students would attend Divisadero Middle School located on the southeast corner of Divisadero Street at Tulare Avenue. Divisadero Middle School is located a walking distance of 3.40 and 3.90 miles from the nearest and farthest home in the Project. Therefore, it is anticipated that the majority of middle school students will be bussed from the Project to the middle school campus.

Based on attendance at the time of the preparation of this TIA, high school students would attend Mount Whitney High School located on the northeast corner of Conyer Street at Tulare Avenue. Mount Whitney High School is located a walking distance of 3.00 and 3.50 miles from the nearest and farthest home in the Project. Therefore, it is anticipated that the majority of high school students will be bussed from the Project to the high school campus.

At present there is a lack of pedestrian walking surface along the south side of K Avenue for a stretch of approximately 1,000 feet between Pinkham Street and Lovers Lane. Therefore, it is recommended that the Project, City of Visalia and VUSD work together to implement a plan which completes a walkway surface along the south side of K Avenue on the missing stretch of sidewalk between Pinkham Street and Lovers Lane.

Traffic Signal Warrants

Warrants 1, 2 and 3 were prepared for the unsignalized intersections under the Opening Year plus Phase 1 Traffic Conditions scenario. Under this scenario, Warrant 1 is projected to be met for the intersection of Lovers Lane at Sunnyside Avenue. Warrant 2 is projected to be met for the study intersections of Lovers Lane at K Avenue and Lovers Lane at Sunnyside Avenue. Warrant 3 is projected to be met for the study intersections of Lovers Lane at K Avenue and Lovers Lane at Sunnyside Avenue during one or both peak periods. Based on the operational analysis and engineering judgement, it is recommended that the study intersection of Lovers lane at Sunnyside Avenue be signalized. However, signalization is not recommended for the rest of the unsignalized study intersections. These warrants are contained in Appendix M.

Roadway Network

The Opening Year plus Phase 1 Traffic Conditions scenario assumes that the existing roadway geometrics and traffic controls will remain in place with a few exceptions. This scenario assumes that the Project will build all driveways that serve the single-family residential portion of the Project (driveways A, B and C) and internal roads (including eastern extension of Sunnyside Avenue). Figure 6 illustrates the assumed intersection geometrics and traffic controls for these intersections under this scenario.

Results of Opening Year plus Phase 1 Level of Service Analysis

Figure 6 illustrates the Opening Year plus Phase 1 turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Opening Year plus Phase 1 Traffic Conditions scenario are provided in Appendix I. Table V presents a summary of the Opening Year plus Phase 1 peak hour LOS at the study intersections.

Under this scenario, the study intersections of Lovers Lane at Walnut Avenue and Lovers Lane at Sunnyside Avenue are projected to exceed their LOS threshold during one of the peak periods. It is recommended that the following be considered for implementation to improve the LOS at these intersections.

- Lovers Lane / Walnut Avenue
  - Add an eastbound left-turn lane;
  - Modify the eastbound left-through lane to a through lane;
  - Add a westbound left-turn lane;
  - Modify the westbound left-through-right lane to a through-right lane;
  - Modify the phasing of the intersection to protective left-turn phasing in all directions; and
  - Modify the traffic signal to accommodate the modified geometrics.

- Lovers Lane / Sunnyside Avenue
  - Stripe an eastbound left-turn lane;
  - Modify the eastbound left-through-right lane to a through-right lane;
  - Add a westbound left-turn lane;
  - Modify the westbound left-through-right lane to a through-right lane;
  - Add a northbound right-turn lane;
  - Modify the northbound through-right lane to a through lane; and
  - Signalize the intersection with protective left-turn phasing in all directions.

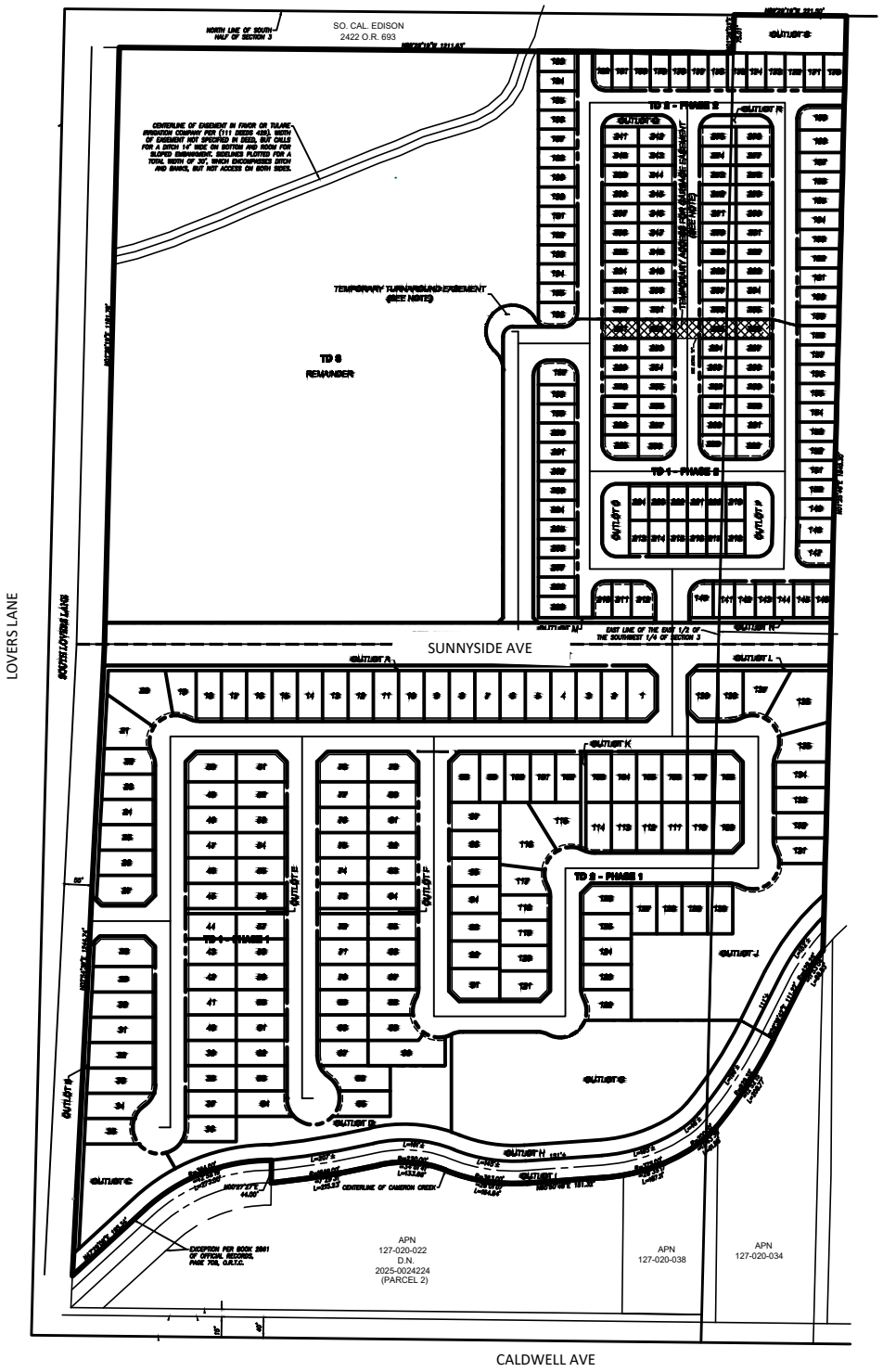
Table V: Opening Year plus Phase 1 Intersection LOS Results

ID	*Intersection*	*Intersection Control*	*AM (7 – 9) Peak Hour*		*PM (4 – 6) Peak Hour*	
			Average Delay (sec/veh)	*LOS*	*Average Delay (sec/veh)*	*LOS*
1	Lovers Lane / Walnut Avenue	Traffic Signal	**66.8**	**E**	49.8	D
		Traffic Signal (Improved)	35.8	D	30.0	C
2	Pinkham Street / K Avenue	All-Way Stop	14.2	B	9.6	A
3	Lovers Lane / K Avenue	Two-Way Stop	16.6	C	15.9	C
4	Lovers Lane / Driveway A	Does not exist	-	-	-	-
5	Lovers Lane / Sunnyside Avenue	Two-Way Stop	34.0	D	**41.0**	**E**
		Traffic Signal (Improved)	16.0	B	16.1	B
6	Driveway B / Sunnyside Avenue	Does not exist	-	-	-	-
7	Driveway C / Sunnyside Avenue	Two-Way Stop	8.9	A	8.7	A
8	Driveway D / Sunnyside Avenue	Two-Way Stop	9.3	A	10.2	B
9	Lovers Lane / Driveway E	Two-Way Stop	10.1	B	10.9	B
10	Pinkham Street / Caldwell Avenue	Two-Way Stop	13.5	B	12.5	B
11	Lovers Lane / Caldwell Avenue	Traffic Signal	26.6	C	27.5	C
12	Road 148 / Caldwell Avenue	Two-Way Stop	32.9	D	19.1	C

Note: LOS = Level of Service based on average delay on signalized intersections and All-Way STOP Controls
LOS for two-way and one-way STOP controlled intersections are based on the worst approach/movement of the minor street.

Clements Ranch - City of Visalia
Project Site Plan

Figure 4



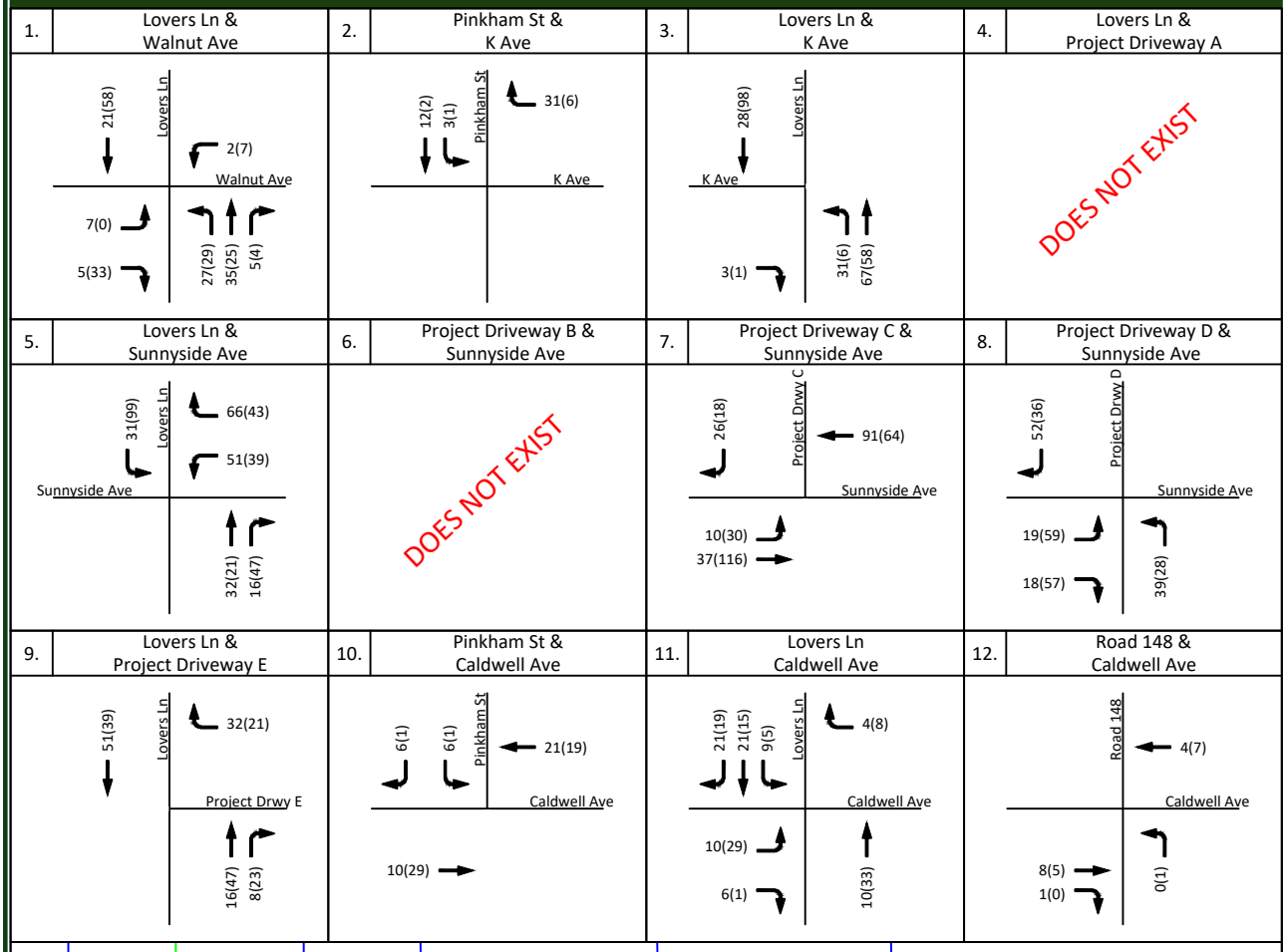
JLB TRAFFIC ENGINEERING, INC.

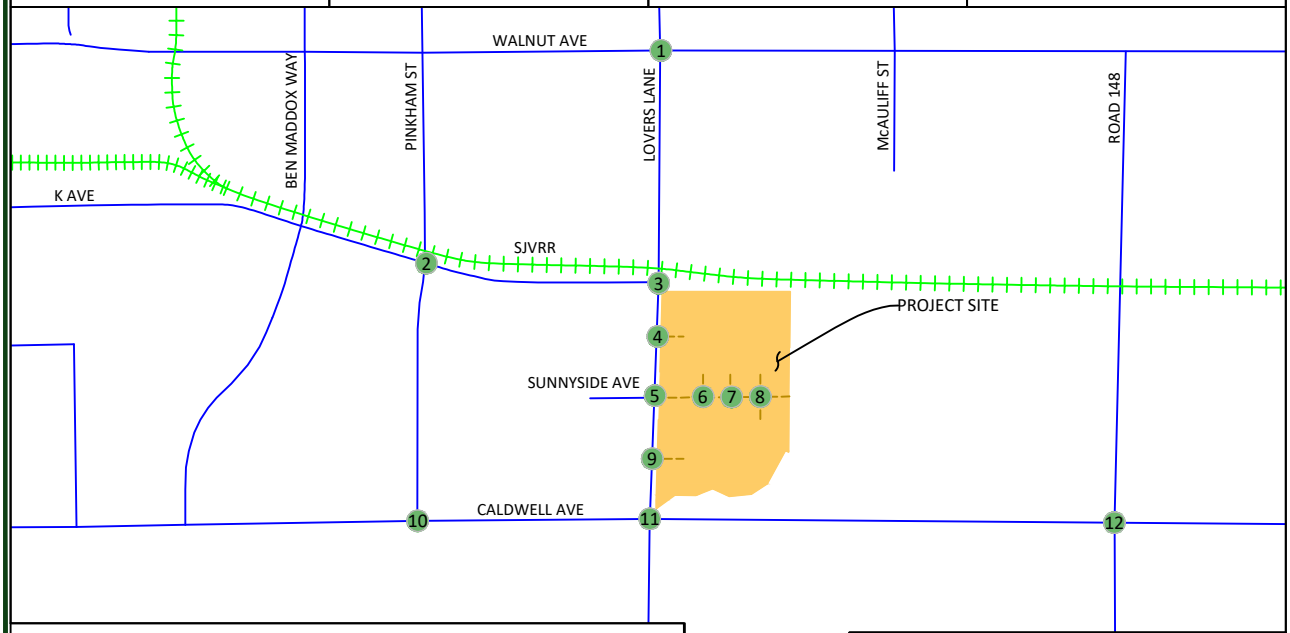
516 W. Shaw Ave., Ste. 103, Fresno, CA 93704
PHONE:(559) 570-8991, EMAIL: info@JLBtraffic.com, www.JLBtraffic.com

Not To Scale

Clements Ranch - City of Visalia
Project Only Trips - Phase 1

Figure 5





LEGEND

- # = STUDY INTERSECTION
- = FUTURE ROADWAY
- XX = AM PROJECT ONLY TRIPS
- (XX) = PM PROJECT ONLY TRIPS

Not To Scale

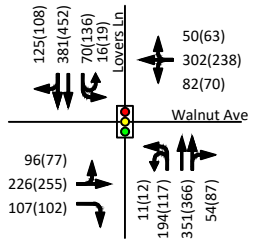
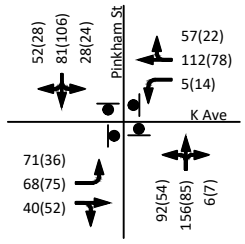
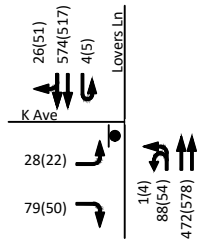
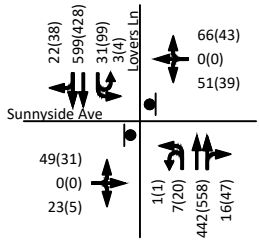
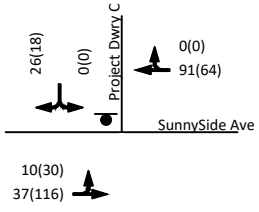
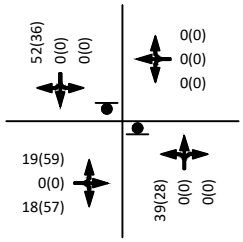
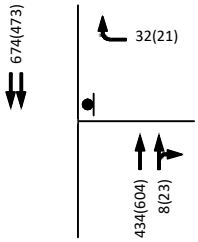
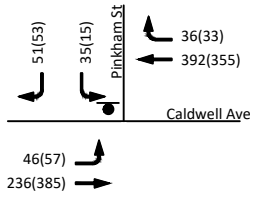
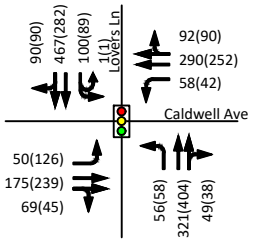
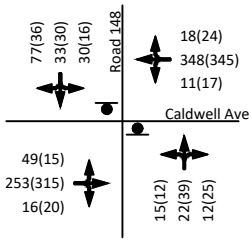
JLB TRAFFIC ENGINEERING, INC.

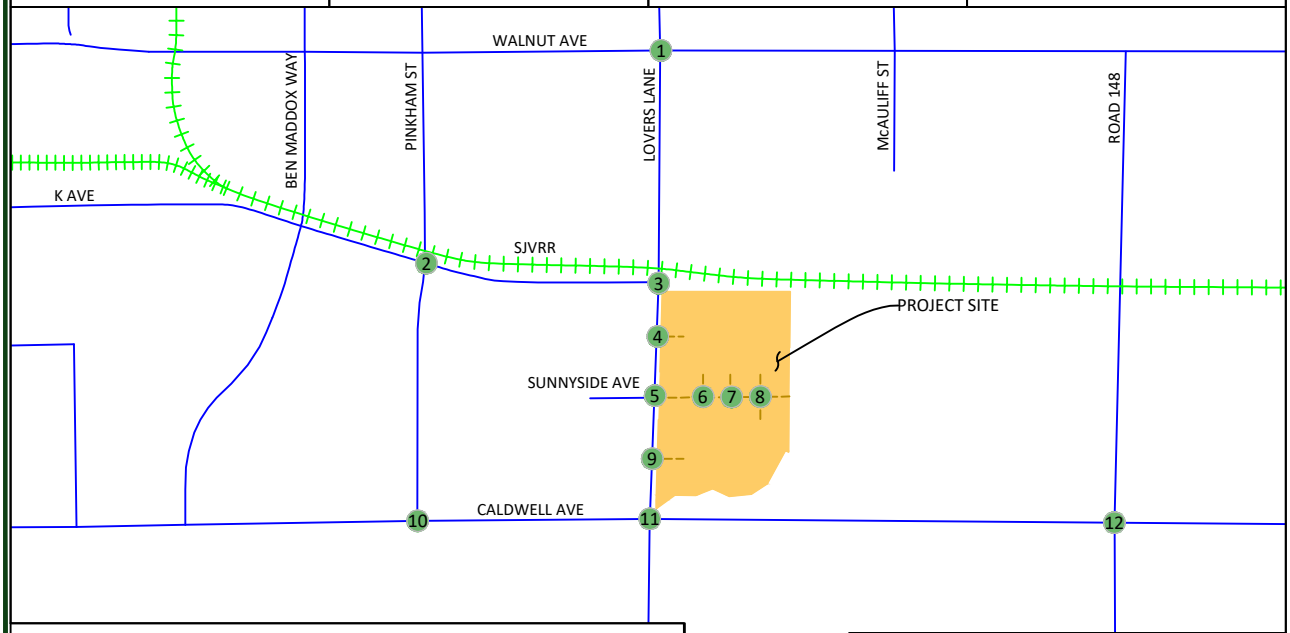
516 W. Shaw Ave., Ste. 103, Fresno, CA 93704

PHONE:(559) 570-8991, EMAIL: info@JLBtraffic.com, www.JLBtraffic.com

Clements Ranch - City of Visalia
Opening Year plus Phase 1 - Traffic Volumes, Geometrics, and Controls

Figure 6

1. Lovers Ln & Walnut Ave	2. Pinkham St & K Ave	3. Lovers Ln & K Ave	4. Lovers Ln & Project Driveway A
			
5. Lovers Ln & Sunnyside Ave	**6. Project Driveway B & Sunnyside Ave**	**7. Project Driveway C & Sunnyside Ave**	**8. Project Driveway D & Sunnyside Ave**
			
9. Lovers Ln & Project Driveway E	**10. Pinkham St & Caldwell Ave**	**11. Lovers Ln Caldwell Ave**	**12. Road 148 & Caldwell Ave**
			



JLB TRAFFIC ENGINEERING, INC.
516 W. Shaw Ave., Ste. 103, Fresno, CA 93704
PHONE:(559) 570-8991, EMAIL: info@JLBtraffic.com, www.JLBtraffic.com

LEGEND

- (#) = STUDY INTERSECTION
- = FUTURE ROADWAY
- = STOP SIGN
- = TRAFFIC SIGNAL
- XX = AM PEAK HOUR TRIPS
- (XX) = PM PEAK HOUR TRIPS

N

Not To Scale

Cumulative 5-Year No Project Traffic Conditions

Traffic Signal Warrants

Warrants 1, 2 and 3 were prepared for the unsignalized intersections under the Cumulative 5-Year No Project Traffic Conditions scenario. Under this scenario, Warrant 1 is not met for any study intersection. Warrant 2 is projected to be met for the study intersection of Lovers Lane at K Avenue. Warrant 3 is projected to be met for the study intersections of Lovers Lane at K Avenue and Road 148 at Caldwell Avenue during the AM peak periods. Based on the operational analysis and engineering judgement, it is not recommended that any unsignalized intersection be signalized in this scenario. These warrants are contained in Appendix M.

Roadway Network

The Cumulative 5-Year No Project scenario Traffic Conditions scenario assumes the same roadway geometrics and traffic controls as those assumed in the Opening Year No Project Traffic Conditions scenario with one exception. This scenario assumes that the intersection of Lovers Lane at Walnut Avenue will be constructed with additional lanes and a modified traffic signal as a result of a City of Visalia Capital Improvement project. Figure 7 illustrates the assumed intersection geometrics and traffic controls for these intersections under this scenario.

Results of Cumulative 5-Year No Project Level of Service Analysis

Figure 7 illustrates the Cumulative 5-Year No Project turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Cumulative 5-Year No Project Traffic Conditions scenario are provided in Appendix J. Table VI presents a summary of the Cumulative 5-Year No Project peak hour LOS at the study intersections.

Under this scenario, the study intersection of Road 148 at Caldwell Avenue is projected to exceed its LOS threshold during the AM peak period. It is recommended that the following be considered for implementation to improve the LOS at this intersection.

- Road 148 / Caldwell Avenue
  - Add a northbound left-turn lane;
  - Modify the northbound left-through-right lane to a through-right lane;
  - Add a southbound left-turn lane; and
  - Modify the southbound left-through-right lane to a through-right lane.

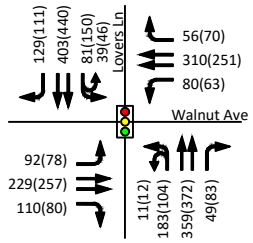
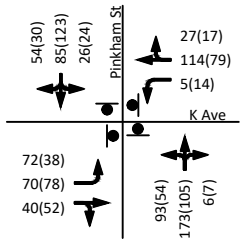
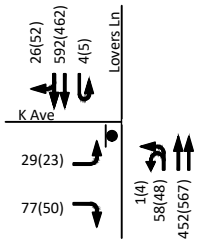
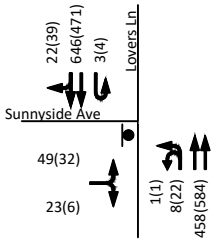
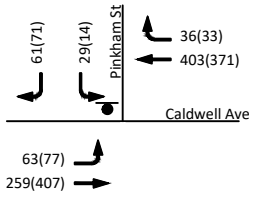
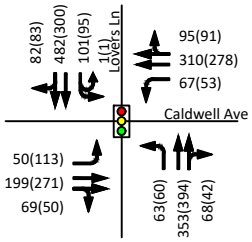
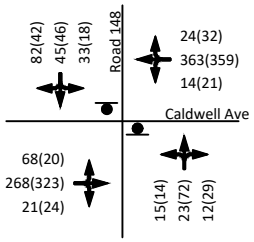
Table VI: Cumulative 5-Year No Project Intersection LOS Results

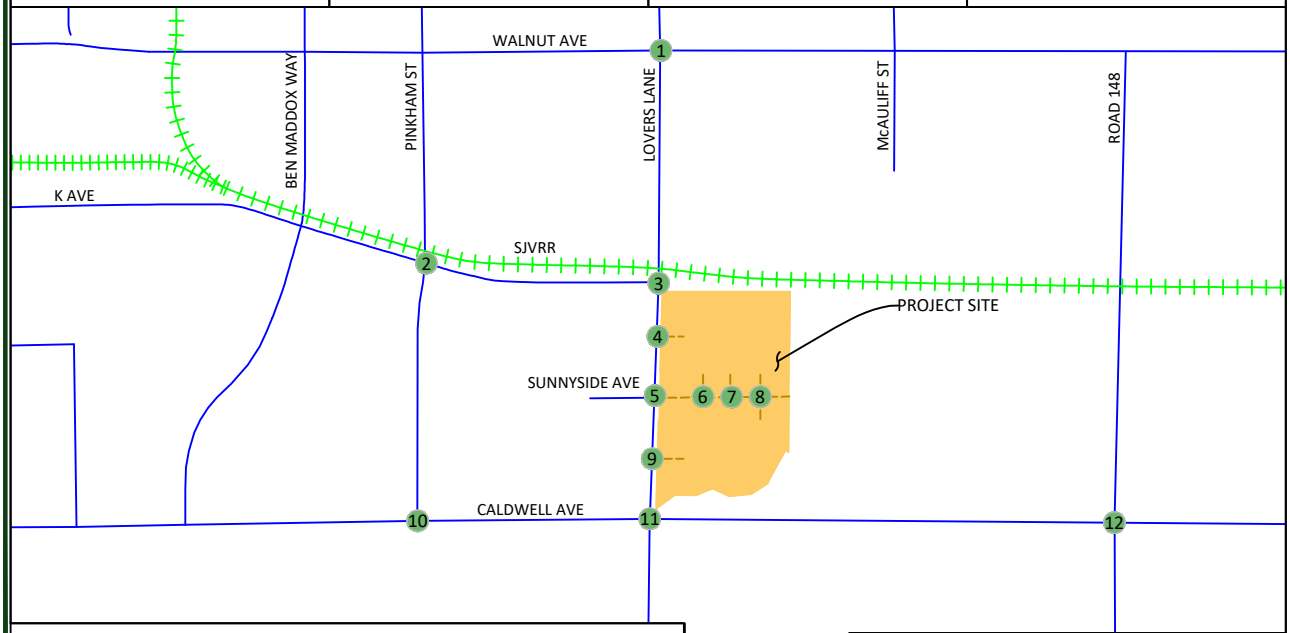
ID	Intersection	Intersection Control	AM (7 – 9) Peak Hour		PM (4 – 6) Peak Hour	
			Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
1	Lovers Lane / Walnut Avenue	Traffic Signal	27.2	C	24.6	C
2	Pinkham Street / K Avenue	All-Way Stop	14.1	B	10.0	A
3	Lovers Lane / K Avenue	Two-Way Stop	15.9	C	14.9	B
4	Lovers Lane / Driveway A	Does not exist	-	-	-	-
5	Lovers Lane / Sunnyside Avenue	Two-Way Stop	23.4	C	20.8	C
6	Driveway B / Sunnyside Avenue	Does not exist	-	-	-	-
7	Driveway C / Sunnyside Avenue	Does not exist	-	-	-	-
8	Driveway D / Sunnyside Avenue	Does not exist	-	-	-	-
9	Lovers Lane / Driveway E	Does not exist	-	-	-	-
10	Pinkham Street / Caldwell Avenue	Two-Way Stop	13.7	B	12.7	B
11	Lovers Lane / Caldwell Avenue	Traffic Signal	27.2	C	27.8	C
12	Road 148 / Caldwell Avenue	Two-Way Stop	**65.2**	**F**	26.3	D
		Two-Way Stop (Improved)	32.7	D	22.7	C

Note: LOS = Level of Service based on average delay on signalized intersections and All-Way STOP Controls
LOS for two-way and one-way STOP controlled intersections are based on the worst approach/movement of the minor street.

Clements Ranch - City of Visalia
Cumulative 5-Year No Project - Traffic Volumes, Geometrics, and Controls

Figure 7

1. Lovers Ln & Walnut Ave	2. Pinkham St & K Ave	3. Lovers Ln & K Ave	4. Lovers Ln & Project Driveway A
			DOES NOT EXIST
5. Lovers Ln & Sunnyside Ave	**6. Project Driveway B & Sunnyside Ave**	**7. Project Driveway C & Sunnyside Ave**	**8. Project Driveway D & Sunnyside Ave**
	DOES NOT EXIST	DOES NOT EXIST	DOES NOT EXIST
9. Lovers Ln & Project Driveway E	**10. Pinkham St & Caldwell Ave**	**11. Lovers Ln Caldwell Ave**	**12. Road 148 & Caldwell Ave**
DOES NOT EXIST			



JLB TRAFFIC ENGINEERING, INC.
516 W. Shaw Ave., Ste. 103, Fresno, CA 93704
PHONE:(559) 570-8991, EMAIL: info@JLBtraffic.com, www.JLBtraffic.com

LEGEND

- (#) = STUDY INTERSECTION
- = FUTURE ROADWAY
- = STOP SIGN
- = TRAFFIC SIGNAL
- XX = AM PEAK HOUR TRIPS
- (XX) = PM PEAK HOUR TRIPS

N

Not To Scale

Cumulative 5-Year plus Phase 1 Traffic Conditions

Traffic Signal Warrants

Warrants 1, 2 and 3 were prepared for the unsignalized intersections under the Cumulative 5-Year plus Phase 1 Traffic Conditions scenario. Under this scenario, Warrant 1 is projected to be met for the intersection of Lovers Lane at Sunnyside Avenue. Warrant 2 is projected to be met for the study intersections of Lovers Lane at K Avenue and Lovers Lane at Sunnyside Avenue. Warrant 3 is projected to be met for the study intersections of Lovers Lane at K Avenue, Lovers Lane at Sunnyside Avenue, Pinkham Street at Caldwell Avenue and Road 148 at Caldwell Avenue during one or both peak periods. Based on the operational analysis and engineering judgement, it is recommended that the study intersection of Lovers Lane at Sunnyside Avenue get signalized in this scenario. However, signalization is not recommended for the rest of the unsignalized study intersections. These warrants are contained in Appendix M.

Roadway Network

The Cumulative 5-Year plus Phase 1 Traffic Conditions scenario assumes the same roadway geometrics and traffic controls as those assumed in the Opening Year plus Phase 1 Traffic Conditions scenario with one exception. This scenario assumes that the intersection of Lovers Lane at Walnut Avenue will be constructed with additional lanes and a modified traffic signal as a result of a City of Visalia Capital Improvement project. Figure 8 illustrates the assumed intersection geometrics and traffic controls for these intersections under this scenario.

Results of Cumulative 5-Year plus Phase 1 Level of Service Analysis

Figure 8 illustrates the Cumulative 5-Year plus Phase 1 turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Cumulative 5-Year plus Phase 1 Traffic Conditions scenario are provided in Appendix K. Table VII presents a summary of the Cumulative 5-Year plus Phase 1 peak hour LOS at the study intersections.

Under this scenario, the study intersections of Lovers Lane at Sunnyside Avenue and Road 148 at Caldwell Avenue are projected to exceed their LOS threshold during one or both peak periods.

It is recommended that the following be considered for implementation to improve the LOS at the intersection of Lovers Lane at Sunnyside Avenue.

- Lovers Lane / Sunnyside Avenue
  - Add an eastbound left-turn lane;
  - Modify the eastbound left-through-right lane to a through-right lane;
  - Add a westbound left-turn lane;
  - Modify the westbound left-through-right lane to a through-right lane;
  - Add a northbound right-turn lane;
  - Modify the northbound through-right lane to a through lane; and
  - Signalize the intersection with protective left-turn phasing in all directions.

It is recommended that a fair share contribution be made by the Project for the following to improve the LOS at the intersection of Road 148 at Caldwell Avenue.

- Road 148 / Caldwell Avenue
  - Add a northbound left-turn lane;
  - Modify the northbound left-through-right lane to a through-right lane;
  - Add a southbound left-turn lane; and
  - Modify the southbound left-through-right lane to a through-right lane.

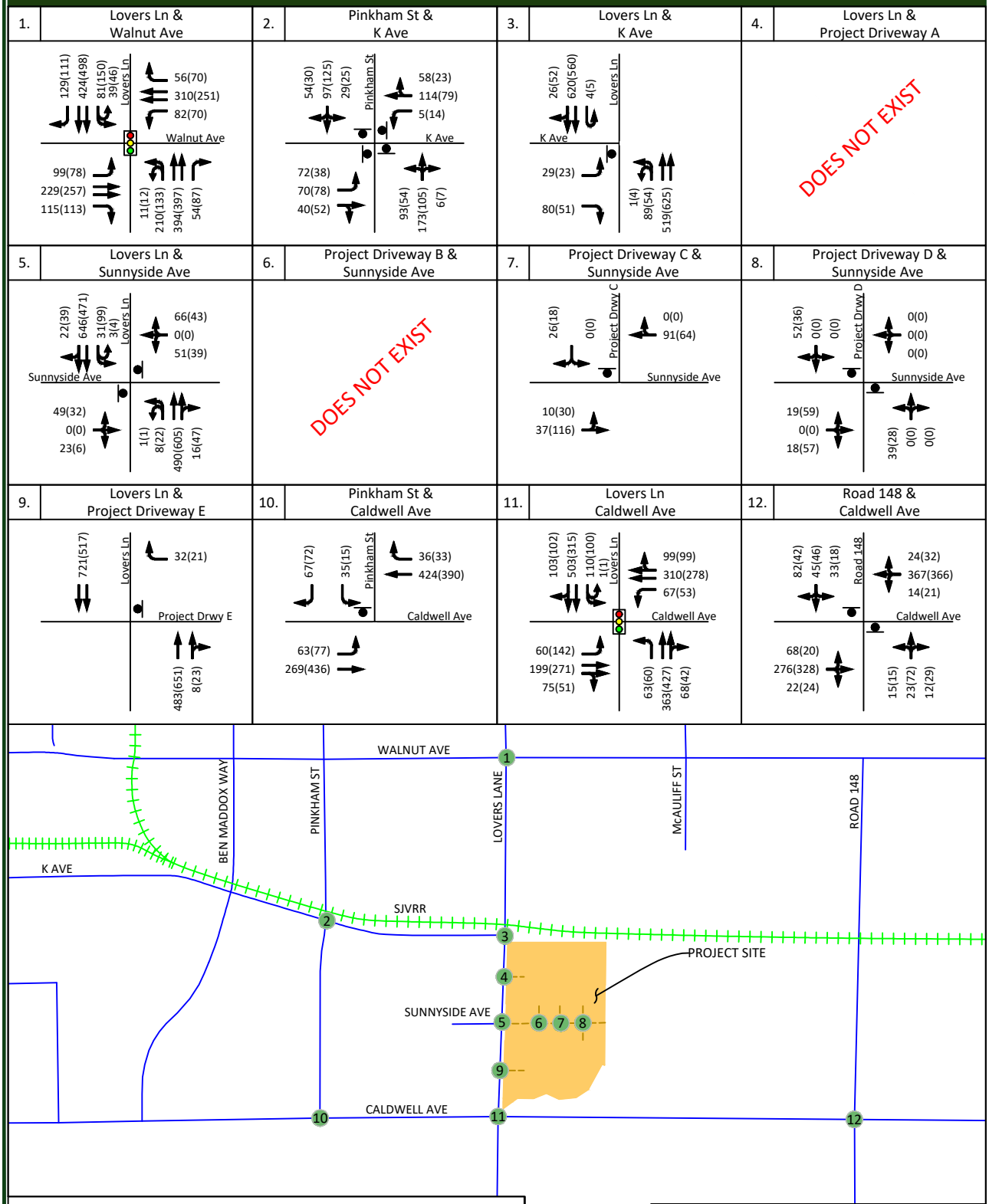
Table VII: Cumulative 5-Year plus Phase 1 Intersection LOS Results

ID	*Intersection*	*Intersection Control*	*AM (7 – 9) Peak Hour*		*PM (4 – 6) Peak Hour*	
			Average Delay (sec/veh)	*LOS*	*Average Delay (sec/veh)*	*LOS*
1	Lovers Lane / Walnut Avenue	Traffic Signal	28.4	C	25.4	C
2	Pinkham Street / K Avenue	All-Way Stop	15.6	C	10.1	B
3	Lovers Lane / K Avenue	Two-Way Stop	18.3	C	17.3	C
4	Lovers Lane / Driveway A	Does not exist	-	-	-	-
5	Lovers Lane / Sunnyside Avenue	Two-Way Stop	**41.6**	**E**	**49.5**	**E**
		Traffic Signal (Improved)	16.0	B	17.1	B
6	Driveway B / Sunnyside Avenue	Does not exist	-	-	-	-
7	Driveway C / Sunnyside Avenue	Two-Way Stop	8.9	A	8.7	A
8	Driveway D / Sunnyside Avenue	Two-Way Stop	9.3	A	10.2	B
9	Lovers Lane / Driveway E	Two-Way Stop	10.3	B	11.1	B
10	Pinkham Street / Caldwell Avenue	Two-Way Stop	14.4	B	13.2	B
11	Lovers Lane / Caldwell Avenue	Traffic Signal	27.8	C	29.0	C
12	Road 148 / Caldwell Avenue	Two-Way Stop	**69.8**	**F**	27.3	D
		Two-Way Stop (Improved)	33.8	D	23.2	C

Note: LOS = Level of Service based on average delay on signalized intersections and All-Way STOP Controls
LOS for two-way and one-way STOP controlled intersections are based on the worst approach/movement of the minor street.

Clements Ranch - City of Visalia
Cumulative 5-Year plus Phase 1 - Traffic Volumes, Geometrics, and Controls

Figure 8



JLB TRAFFIC ENGINEERING, INC.

516 W. Shaw Ave., Ste. 103, Fresno, CA 93704

PHONE:(559) 570-8991, EMAIL: info@JLBtraffic.com, www.JLBtraffic.com

LEGEND

- (#) = STUDY INTERSECTION
- = FUTURE ROADWAY
- = STOP SIGN
- = TRAFFIC SIGNAL
- XX = AM PEAK HOUR TRIPS
- (XX) = PM PEAK HOUR TRIPS

N

Not To Scale

Cumulative 5-Year plus Buildout Traffic Conditions

Trip Generation

Trip generation rates for the proposed Project were obtained from the 12th Edition of the *Trip Generation Manual* published by the Institute of Transportation Engineers (ITE). Table VIII presents the trip generation for Phase 2 proposed Project with trip generation rates for Multifamily Housing (Low Rise) Not Close to Rail Transit (220). In Phase 2, the Project is estimated to generate approximately 2,329 daily trips, 154 AM peak hour trips and 195 PM peak hour trips.

Table VIII: Phase 2 Trip Generation

Land Use (ITE Code)	*Size*	*Unit*	*Daily*		*AM (7-9) Peak Hour*						*PM (4-6) Peak Hour*					
			Rate	*Total*	*Trip Rate*	*In*	*Out*	*In*	*Out*	*Total*	*Trip Rate*	*In*	*Out*	*In*	*Out*	*Total*
						%						*%*				
Multifamily Housing (Low Rise) Not Close to Rail Transit (220)	375	d.u.	6.21	2,329	0.41	24	76	37	117	154	0.52	62	38	121	74	195
Total Driveway Trips				**2,329**				**37**	**117**	**154**				**121**	**74**	**195**

Note: d.u. = Dwelling Units

Trip Distribution

The Project Only Trips to the study intersections were developed based on existing travel patterns, the TCAG model output, the existing roadway network, engineering judgment, existing residential densities and the *Visalia General Plan* Circulation Element in the vicinity of the Project site. Figure 9 illustrates the trip distribution from Phase 2 (Multi-Family Residential) to the study intersections.

Traffic Signal Warrants

Warrants 1, 2 and 3 were prepared for the unsignalized intersections under the Cumulative 5-Year plus Buildout Traffic Conditions scenario. Under this scenario, Warrant 1 is projected to be met for the intersections of Lovers Lane at K Avenue and Lovers Lane at Sunnyside Avenue. Warrant 2 is projected to be met for the study intersections of Lovers Lane at K Avenue, Lovers Lane at Sunnyside Avenue and Pinkham Street at Caldwell Avenue. Warrant 3 is projected to be met for the study intersections of Lovers Lane at K Avenue, Lovers Lane at Sunnyside Avenue, Pinkham Street at Caldwell Avenue and Road 148 at Caldwell Avenue during one or both peak periods. Based on the operational analysis and engineering judgement, it is recommended that the study intersection of Lovers Lane at Sunnyside Avenue get signalized in this scenario. However, signalization is not recommended for the rest of the unsignalized study intersections. These warrants are contained in Appendix M.

Roadway Network

The Cumulative 5-Year plus Buildout Traffic Conditions scenario assumes the same roadway geometrics and traffic controls as those assumed in the Cumulative 5-Year plus Phase 1 Traffic Conditions scenario with one exception. This scenario assumes that the Project will build all driveways that serve the multi-family residential portion of the Project (driveways A and B). Figure 10 illustrates the assumed intersection geometrics and traffic controls for these intersections under this scenario.

Results of Cumulative 5-Year plus Buildout Level of Service Analysis

Figure 10 illustrates the Cumulative 5-Year plus Buildout turning movement volumes, intersection geometrics and traffic controls. LOS worksheets for the Cumulative 5-Year plus Buildout Traffic Conditions scenario are provided in Appendix L. Table IX presents a summary of the Cumulative 5-Year plus Buildout peak hour LOS at the study intersections.

Under this scenario, the study intersections of Lovers Lane at Sunnyside Avenue and Road 148 at Caldwell Avenue are projected to exceed its LOS threshold during one or both peak periods.

It is recommended that the following improvements be considered for implementation to improve the LOS at the intersection of Lovers Lane at Sunnyside Avenue.

- Lovers Lane / Sunnyside Avenue
  - Add an eastbound left-turn lane;
  - Modify the eastbound left-through-right lane to a through-right lane;
  - Add a westbound left-turn lane;
  - Modify the westbound left-through-right lane to a through-right lane;
  - Add a northbound right-turn lane;
  - Modify the northbound through-right lane to a through lane; and
  - Signalize the intersection with protective left-turn phasing in all directions.

It is recommended that a fair share contribution be made by the Project for the following to improve the LOS at the intersection of Road 148 at Caldwell Avenue.

- Road 148 / Caldwell Avenue
  - Add a northbound left-turn lane;
  - Modify the northbound left-through-right lane to a through-right lane;
  - Add a southbound left-turn lane; and
  - Modify the southbound left-through-right lane to a through-right lane.

Table IX: Cumulative 5-Year plus Buildout Intersection LOS Results

ID	Intersection	Intersection Control	AM (7 – 9) Peak Hour		PM (4 – 6) Peak Hour	
			Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
1	Lovers Lane / Walnut Avenue	Traffic Signal	30.3	C	26.2	C
2	Pinkham Street / K Avenue	All-Way Stop	17.5	C	10.2	B
3	Lovers Lane / K Avenue	Two-Way Stop	22.1	C	20.1	C
4	Lovers Lane / Driveway A	Two-Way Stop	11.2	B	11.4	B
5	Lovers Lane / Sunnyside Avenue	Two-Way Stop	**62.6**	**F**	**>120.0**	**F**
		Traffic Signal (Improved)	15.8	B	21.6	C
6	Driveway B / Sunnyside Avenue	Two-Way Stop	9.5	A	9.0	A
7	Driveway C / Sunnyside Avenue	Two-Way Stop	8.9	A	8.7	A
8	Driveway D / Sunnyside Avenue	Two-Way Stop	9.3	A	10.2	B
9	Lovers Lane / Driveway E	Two-Way Stop	10.4	B	11.4	B
10	Pinkham Street / Caldwell Avenue	Two-Way Stop	15.0	C	13.6	B
11	Lovers Lane / Caldwell Avenue	Traffic Signal	28.4	C	30.4	C
12	Road 148 / Caldwell Avenue	Two-Way Stop	**73.9**	**F**	27.8	D
		Two-Way Stop (Improved)	34.8	D	23.5	C

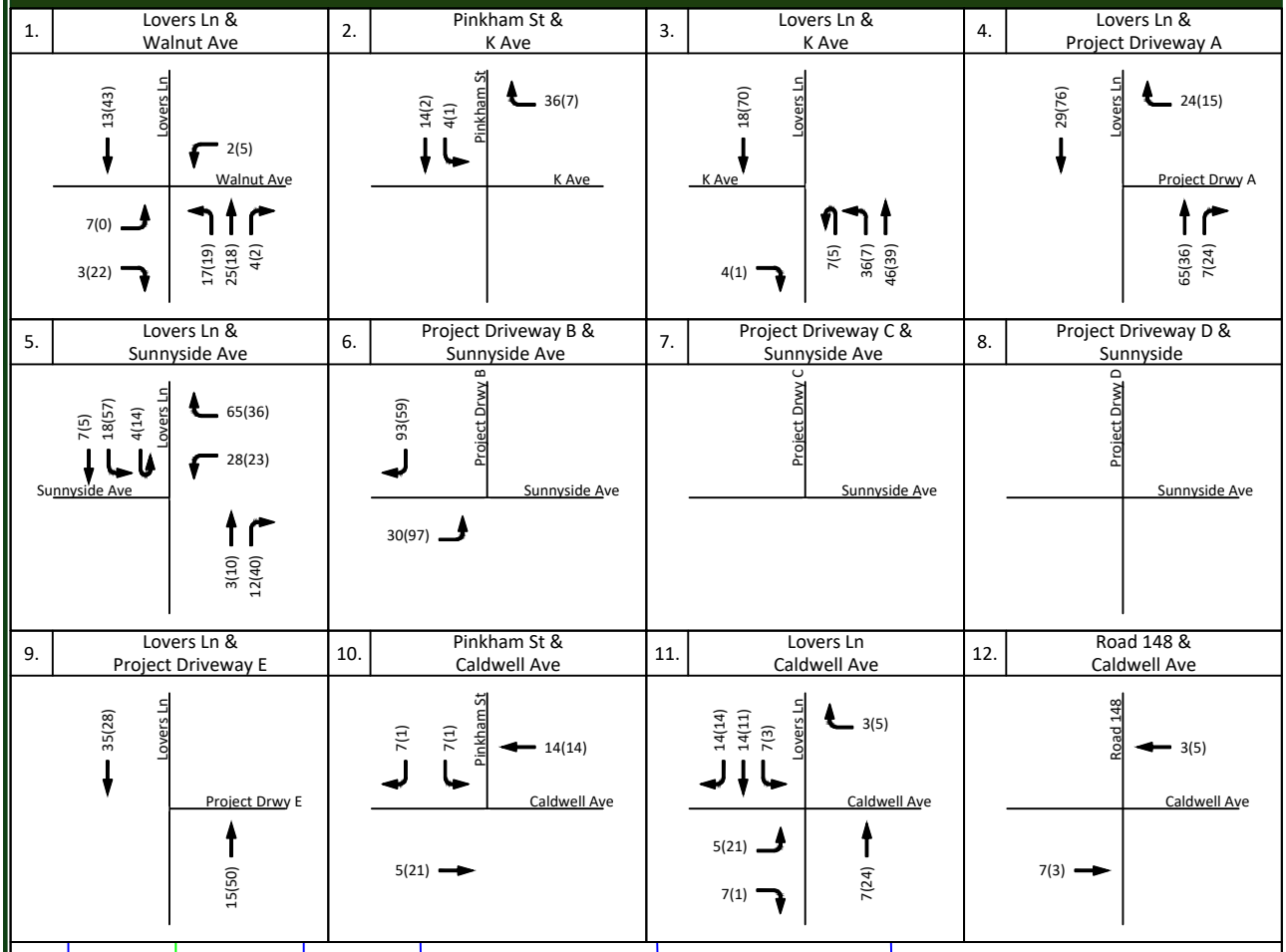
Note: LOS = Level of Service based on average delay on signalized intersections and All-Way STOP Controls
LOS for two-way and one-way STOP controlled intersections are based on the worst approach/movement of the minor street.

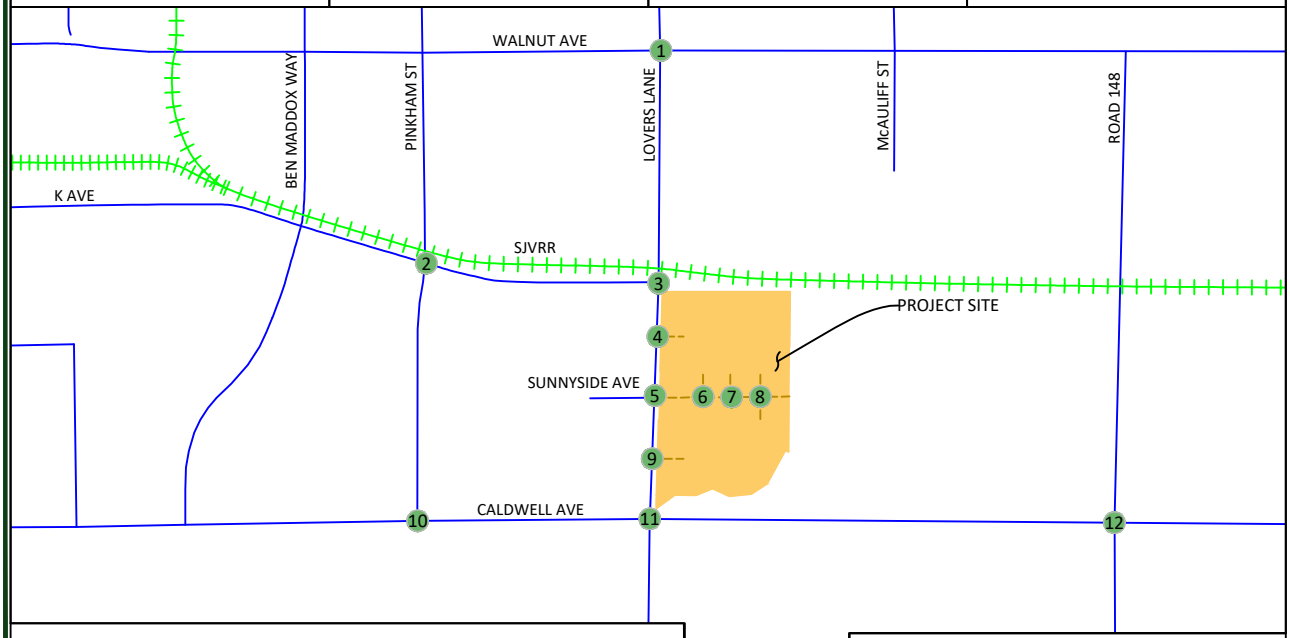
Project Only Trip Assignment to State Facilities

Figure 11 illustrates the Project Only Trips to State Route 198 at Lovers Lane interchange as requested by Caltrans.

Clements Ranch - City of Visalia
Project Only Trips - Phase 2

Figure 9





LEGEND

- # = STUDY INTERSECTION
- = FUTURE ROADWAY
- XX = AM PROJECT ONLY TRIPS
- (XX) = PM PROJECT ONLY TRIPS

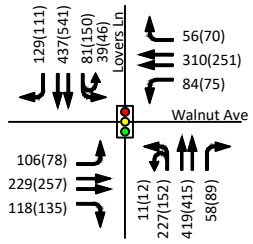
Not To Scale

JLB TRAFFIC ENGINEERING, INC.
516 W. Shaw Ave., Ste. 103, Fresno, CA 93704
PHONE:(559) 570-8991, EMAIL: info@JLBtraffic.com, www.JLBtraffic.com

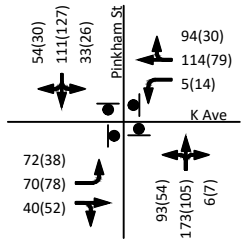
Clements Ranch - City of Visalia
Cumulative 5-Year plus Buildout - Traffic Volumes, Geometrics, and Controls

Figure 10

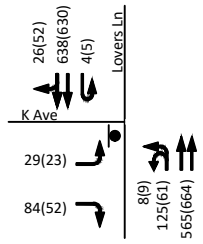
1. Lovers Ln & Walnut Ave



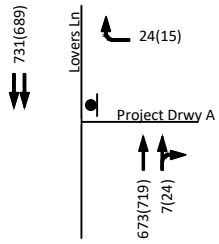
2. Pinkham St & K Ave



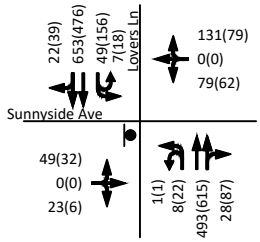
3. Lovers Ln & K Ave



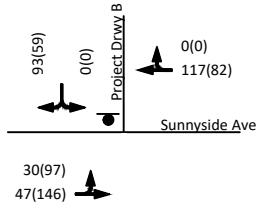
4. Lovers Ln & Project Driveway A



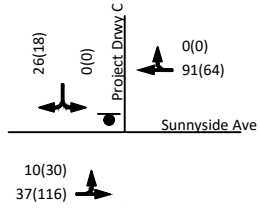
5. Lovers Ln & Sunnyside Ave



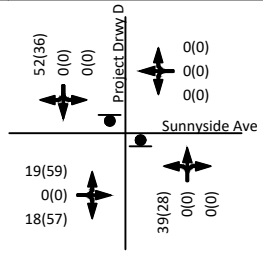
6. Project Driveway B & Sunnyside Ave



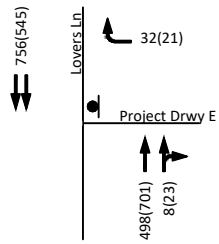
7. Project Driveway C & Sunnyside Ave



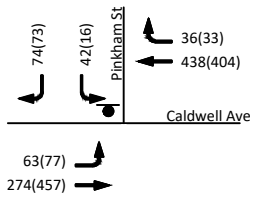
8. Project Driveway D & Sunnyside Ave



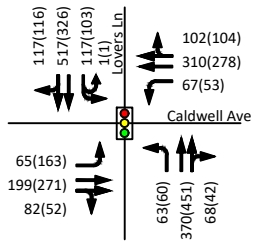
9. Lovers Ln & Project Driveway E



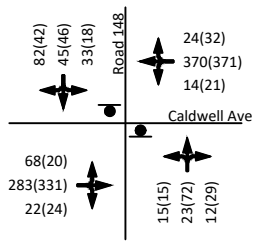
10. Pinkham St & Caldwell Ave

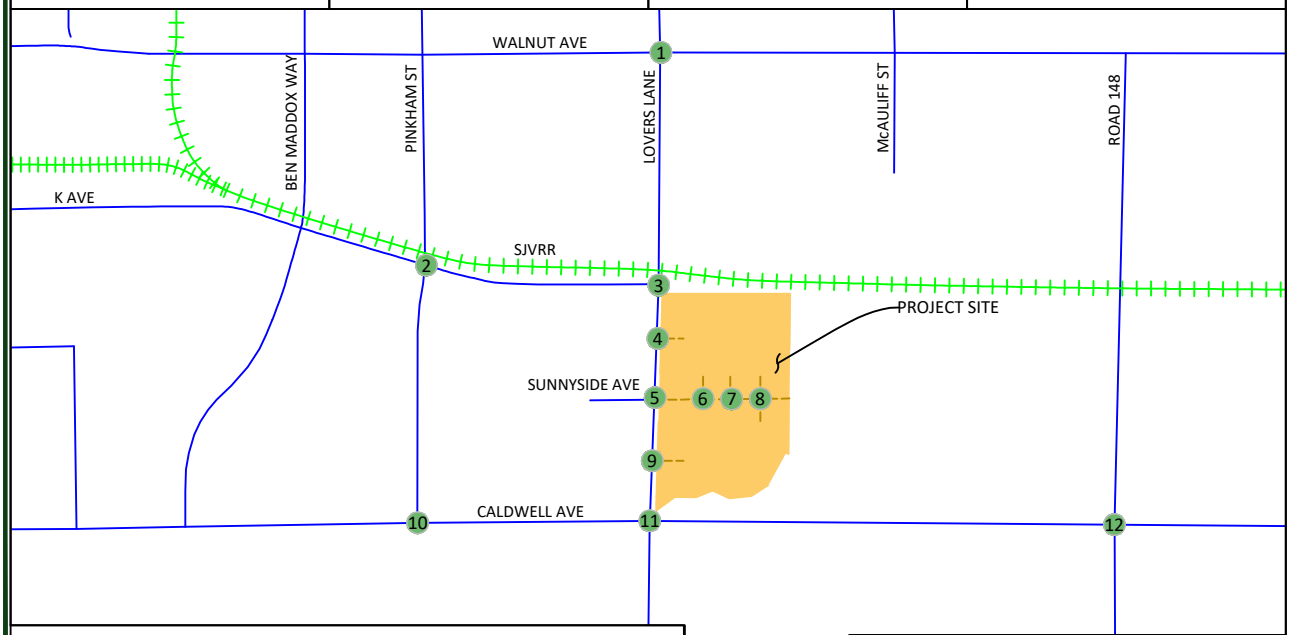


11. Lovers Ln Caldwell Ave



12. Road 148 & Caldwell Ave





JLB TRAFFIC ENGINEERING, INC.
516 W. Shaw Ave., Ste. 103, Fresno, CA 93704
PHONE:(559) 570-8991, EMAIL: info@JLBtraffic.com, www.JLBtraffic.com

LEGEND

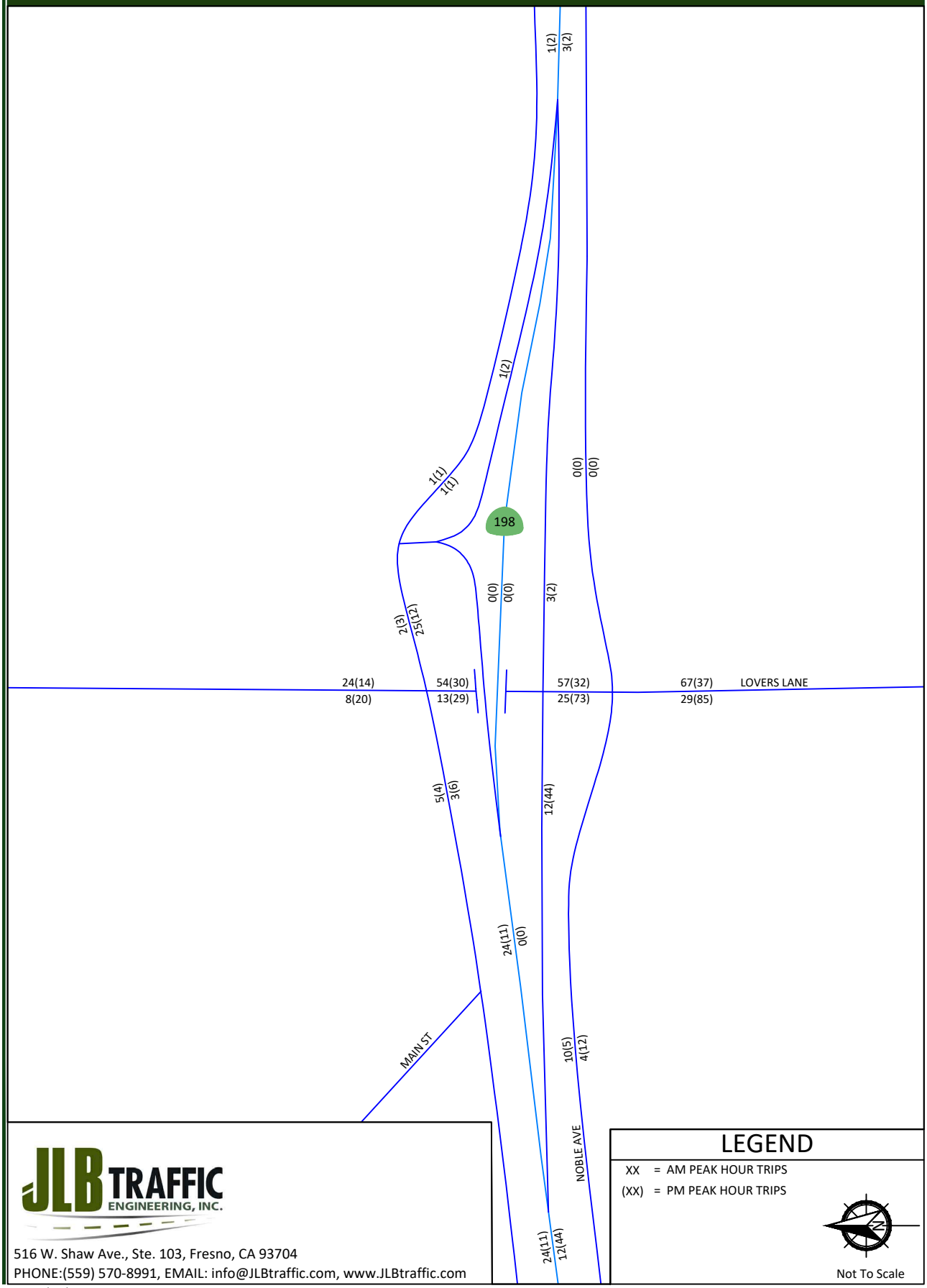
- (#) = STUDY INTERSECTION
- = FUTURE ROADWAY
- = STOP SIGN
- = TRAFFIC SIGNAL
- XX = AM PEAK HOUR TRIPS
- (XX) = PM PEAK HOUR TRIPS

N

Not To Scale

Clements Ranch - City of Visalia
State Route 198 at Lovers Lane

Figure 11



LEGEND

XX = AM PEAK HOUR TRIPS

(XX) = PM PEAK HOUR TRIPS

Not To Scale

JLB TRAFFIC ENGINEERING, INC.

516 W. Shaw Ave., Ste. 103, Fresno, CA 93704

PHONE:(559) 570-8991, EMAIL: info@JLBtraffic.com, www.JLBtraffic.com

Queuing Analysis

Table X provides a queue length summary for left-turn and right-turn lanes at the study intersections under all study scenarios. The queuing analyses for the study intersections are contained in the LOS worksheets for the respective scenarios. Appendix D contains the methodologies used to evaluate these intersections. Queuing analyses were completed using SimTraffic output information. Synchro provides both 50th and 95th percentile maximum queue lengths (in feet). According to the *Synchro Studio 12 User Guide*, "the 50th percentile maximum queue is the maximum back of queue on a typical cycle and the 95th percentile queue is the maximum back of queue with 95th percentile volumes" (Cubic ITS, Inc., 2019). The queues shown on Table X are the 95th percentile queue lengths for the respective lane movements.

The *California Highway Design Manual* (CA HDM) provides guidance for determining deceleration lengths for the left-turn and right-turn lanes based on design speeds. According to the CA HDM, tapers for right-turn lanes are "usually unnecessary since main line traffic need not be shifted laterally to provide space for the right-turn lane. If, in some rare instances, a lateral shift were needed, the approach taper would use the same formula as for a left-turn lane" (Caltrans, 2026). Therefore, a bay taper length pursuant to the CA HDM would need to be added, as necessary, to the recommended storage lengths presented in Table X.

The storage capacity for the Cumulative 5-Year plus Buildout Traffic Conditions shall be based on the SimTraffic output files and engineering judgement. The values in bold presented in Table X are the projected queue lengths that will likely need to be accommodated by the Cumulative 5-Year plus Buildout Traffic Conditions scenario. At the remaining approaches of the study intersections, the existing storage capacity will be sufficient to accommodate the maximum queue.

Table XI provides a queue length summary for left-turn and right-turn lanes at the study intersections using a manual calculation methodology. This methodology is consistent with the City of Visalia *Procedures for Traffic Impact Analysis*. The queues were calculated by rounding up to the nearest vehicle with the average vehicle requiring 25 feet of storage. The queues shown in Table XI are those calculated pursuant to the 7th Edition of the Green Book by American Association of State Highways and Transportation Officials (AASHTO) for the respective movement. The values in bold presented in Table XI are the projected queue lengths that will likely need to be accommodated by the Cumulative 5-Year plus Buildout Traffic Conditions scenario. At the remaining approaches of the study intersections, the existing storage capacity will be sufficient to accommodate the maximum queue.

Table X: Queuing Analysis

ID	Intersection	Existing Queue Storage Length (ft.)		Existing		Opening Year No Project		Opening Year plus Phase 1		Cumulative 5-Year No Project		Cumulative 5-Year plus Phase 1		Cumulative 5-Year plus Buildout	
				AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	Lovers Lane / Walnut Avenue	Eastbound Left	*	130	115	133	100	129	90	103	92	80	106	**124**	93
		Eastbound Left-Through	>500	*	*	*	*	*	*	*	*	*	*	*	*
		Eastbound Through	*	199	184	180	172	181	221	87	100	102	86	102	107
		Eastbound Through	*	*	*	*	*	*	*	82	120	89	85	89	101
		Eastbound Right	150	60	59	64	51	64	59	59	44	51	65	64	67
		Westbound Left	*	103	93	108	85	142	98	99	94	**113**	75	106	84
		Westbound Through	*	*	*	*	*	*	*	126	108	128	127	113	81
		Westbound Through	*	*	*	*	*	*	*	102	79	93	85	93	47
		Westbound Left-Through-Right	>500	*	*	*	*	*	*	*	*	*	*	*	*
		Westbound Through-Right	*	247	230	287	203	248	269	*	*	*	*	*	*
		Westbound Right	*	*	*	*	*	*	*	34	39	32	32	**45**	34
		Northbound Left	210	148	128	172	108	178	136	190	124	197	177	**215**	162
		Northbound Through	>500	97	146	116	123	134	188	110	120	118	170	124	156
		Northbound Through	*	*	*	*	*	*	*	121	148	122	178	138	163
		Northbound Through-Right	>500	117	167	131	161	131	210	*	*	*	*	*	*
		Northbound Right	*	*	*	*	*	*	*	30	64	34	**83**	45	55
		Southbound Left	250	100	131	117	165	133	159	136	183	104	182	131	219
		Southbound Through	>500	170	180	176	165	187	180	166	152	148	162	155	203
		Southbound Through	*	*	*	*	*	*	*	138	127	126	144	138	199
		Southbound Through-Right	>500	158	174	163	155	190	186	*	*	*	*	*	*
		Southbound Right	*	*	*	*	*	*	*	56	35	59	57	85	**89**
2	Pinkham Street / K Avenue	Eastbound Left	200	32	36	45	35	45	37	41	38	36	38	39	37
		Eastbound Through-Right	>500	46	45	36	44	39	46	51	46	50	55	51	49
		Westbound Left	150	20	28	10	28	21	31	19	29	10	25	16	26
		Westbound Through-Right	>500	58	40	59	44	83	55	55	58	76	45	67	49
		Northbound Left-Through-Right	>500	85	55	83	57	89	59	127	75	108	65	84	77
		Southbound Left-Through-Right	>500	70	66	63	65	77	69	66	79	77	58	71	64

Note: * = Does not exist or is not projected to exist

Table X: Queuing Analysis (Continued)

ID	Intersection	Existing Queue Storage Length (ft.)		Existing		Opening Year No Project		Opening Year plus Phase 1		Cumulative 5-Year No Project		Cumulative 5-Year plus Phase 1		Cumulative 5-Year plus Buildout	
				AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
3	Lovers Lane / K Avenue	Eastbound Left	>300	46	41	46	41	42	33	46	45	49	45	50	51
		Eastbound Right	115	50	42	63	47	46	63	50	46	56	54	55	44
		Northbound Left	290	57	35	50	40	55	49	47	33	86	51	70	55
		Northbound Through	>500	0	0	0	8	0	0	0	0	0	0	0	10
		Northbound Through	>500	0	0	0	0	0	0	0	0	0	0	0	0
		Southbound Left	100	12	17	11	11	12	11	14	8	8	8	14	11
		Southbound Through	>500	0	0	0	11	0	18	0	17	11	0	6	0
		Southbound Through-Right	>500	0	7	0	7	0	0	0	11	10	0	10	7
4	Lovers Lane / Driveway A	Westbound Right	*	*	*	*	*	*	*	*	*	*	*	53	32
		Northbound Through	*	*	*	*	*	*	*	*	*	*	*	12	0
		Northbound Through-Right	*	*	*	*	*	*	*	*	*	*	*	6	0
		Southbound Through	*	*	*	*	*	*	*	*	*	*	*	0	0
		Southbound Through	*	*	*	*	*	*	*	*	*	*	*	0	0
5	Lovers Lane / Sunnyside Avenue	Eastbound Left	*	*	*	*	*	**73**	61	*	*	64	50	58	62
		Eastbound Left-Right	>300	56	56	57	52	0	0	69	46	0	0	0	30
		Eastbound Through-Right	*	*	*	*	*	49	9	*	*	44	31	48	0
		Westbound Left	*	*	*	*	*	59	41	*	*	82	64	**88**	62
		Westbound Through-Right	*	*	*	*	*	40	35	*	*	52	33	61	46
		Northbound Left	80	12	19	0	21	33	27	14	34	37	39	30	39
		Northbound Through	>500	0	0	0	0	142	119	0	0	137	169	128	183
		Northbound Through	>500	0	0	0	0	120	136	0	0	121	163	105	179
		Northbound Right	*	*	*	*	*	22	35	*	*	26	29	24	**44**
		Southbound Left	300	9	8	0	12	50	101	11	8	54	101	62	200
		Southbound Through	>500	0	0	0	0	201	120	0	0	173	138	125	165
		Southbound Through-Right	>500	0	17	0	14	181	107	0	7	170	105	123	117
6	Driveway B / Sunnyside Avenue	Eastbound Left-Through	*	*	*	*	*	*	*	*	*	*	*	24	49
		Westbound Through-Right	*	*	*	*	*	*	*	*	*	*	*	0	0
		Southbound left-Right	*	*	*	*	*	*	*	*	*	*	*	59	48
7	Driveway C / Sunnyside Avenue	Eastbound Left-Through	*	*	*	*	*	*	15	*	*	0	21	16	14
		Westbound Through-Right	*	*	*	*	*	0	0	*	*	0	0	0	0
		Southbound left-Right	*	*	*	*	*	49	38	*	*	44	45	46	50

Note: * = Does not exist or is not projected to exist

Table X: Queuing Analysis (Continued)

ID	Intersection	Existing Queue Storage Length (ft.)		Existing		Opening Year No Project		Opening Year plus Phase 1		Cumulative 5-Year No Project		Cumulative 5-Year plus Phase 1		Cumulative 5-Year plus Buildout	
				AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
8	Driveway D / Sunnyside Avenue	Eastbound Left-Through-Right	*	*	*	*	*	0	0	*	*	0	0	0	0
		Westbound Left-Through-Right	*	*	*	*	*	0	0	*	*	0	0	0	0
		Northbound Left-Through-Right	*	*	*	*	*	49	47	*	*	51	50	48	53
		Southbound Left-Through-Right	*	*	*	*	*	49	49	*	*	56	48	53	46
9	Lovers Lane / Driveway E	Westbound Right	*	*	*	*	*	44	39	*	*	43	44	42	41
		Northbound Through	*	*	*	*	*	0	0	*	*	0	0	0	0
		Northbound-Right	*	*	*	*	*	0	0	*	*	0	0	0	0
		Southbound Through	*	*	*	*	*	0	0	*	*	0	0	0	0
		Southbound Through	*	*	*	*	*	0	0	*	*	0	0	0	0
10	Pinkham Street / Caldwell Avenue	Eastbound Left	165	21	25	36	44	34	33	51	40	45	42	41	57
		Eastbound Through	>500	0	0	0	0	0	0	0	0	0	0	0	0
		Westbound Through	>500	0	18	0	0	0	0	15	16	25	12	0	0
		Westbound Right	>300	13	18	23	0	0	0	18	18	18	15	0	0
		Southbound Left	200	35	27	57	34	46	33	51	32	45	31	45	29
		Southbound Right	>300	38	31	44	54	38	49	52	42	38	52	51	54
11	Lovers Lane / Caldwell Avenue	Eastbound Left	230	65	104	78	112	72	141	83	117	93	177	84	180
		Eastbound Through	>500	121	116	110	129	121	125	127	129	128	135	147	136
		Eastbound Through-Right	>500	62	89	89	107	96	91	108	101	102	103	110	99
		Westbound Left	90	87	67	105	69	87	61	79	87	**113**	73	88	76
		Westbound Through	>500	119	122	168	139	124	129	138	129	163	123	144	127
		Westbound Through-Right	>500	115	109	147	130	147	134	138	127	161	131	154	145
		Northbound Left	150	90	96	91	90	69	103	97	95	73	98	91	100
		Northbound Through	>500	123	136	114	121	100	159	124	142	146	141	144	147
		Northbound Through-Right	>500	127	107	77	121	78	156	130	124	131	137	132	153
		Southbound Left	125	131	110	140	104	134	122	108	114	**199**	157	148	135
		Southbound Through	>500	208	124	181	135	212	148	172	156	305	156	252	163
		Southbound Through-Right	>500	139	79	145	88	182	110	160	112	278	120	218	142

Note: * = Does not exist or is not projected to exist

Table X: Queuing Analysis (Continued)

ID	Intersection	Existing Queue Storage Length (ft.)		Existing		Opening Year No Project		Opening Year plus Phase 1		Cumulative 5-Year No Project		Cumulative 5-Year plus Phase 1		Cumulative 5-Year plus Buildout	
				AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
12	Road 148 / Caldwell Avenue	Eastbound Left-Through-Right	>500	24	19	44	20	35	18	69	37	60	40	56	44
		Westbound Left-Through-Right	>500	8	26	24	21	45	30	15	28	39	43	23	31
		Northbound Left	*	*	*	*	*	*	*	28	29	35	31	**40**	25
		Northbound Left-Through-Right	>500	43	52	44	50	48	51	*	*	*	*	*	*
		Northbound Through-Right	*	*	*	*	*	*	*	42	60	41	54	43	53
		Southbound Left	*	*	*	*	*	*	*	43	38	**48**	33	44	33
		Southbound Left-Through-Right	>500	64	50	81	62	71	46	*	*	*	*	*	*
		Southbound Through-Right	*	*	*	*	*	*	*	57	48	67	51	52	57

Table XI: Queuing Analysis (AASHTO Calculated)

ID	Intersection	Existing Queue Storage Length (ft.)		Existing		Opening Year No Project		Opening Year plus Phase 1		Cumulative 5-Year No Project		Cumulative 5-Year plus Phase 1		Cumulative 5-Year plus Buildout	
				AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	Lovers Lane / Walnut Avenue	Eastbound Left	*	150	150	150	150	175	150	175	150	175	150	**200**	150
		Eastbound Right	150	175	125	175	125	200	175	200	150	200	200	200	**225**
		Westbound Left	*	150	125	150	125	150	125	150	125	150	125	**150**	125
		Westbound Right	*	*	*	*	*	*	*	100	125	100	125	100	**125**
		Northbound Left	210	300	150	300	175	350	225	325	200	375	250	**400**	275
		Northbound Right	*	*	*	*	*	*	*	100	150	100	150	100	**150**
		Southbound Left	250	125	225	125	250	150	275	200	350	200	350	200	**350**
		Southbound Right	*	*	*	*	*	*	*	225	200	225	200	**225**	200
2	Pinkham Street / K Avenue	Eastbound Left	200	75	50	75	50	75	50	75	50	75	50	75	50
		Westbound Left	150	25	25	25	25	25	25	25	25	25	25	25	25
3	Lovers Lane / K Avenue	Eastbound Right	115	75	50	75	50	75	50	75	50	75	50	75	50
		Northbound Left	290	50	50	50	50	75	50	50	50	75	50	125	75
		Southbound Left	100	25	25	25	25	25	25	25	25	25	25	25	25
5	Caldwell Avenue / Sunnyside Avenue	Eastbound Left	*	*	*	*	*	75	50	*	*	75	50	**75**	50
		Westbound Left	*	*	*	*	*	75	50	*	*	75	50	**100**	75
		Northbound Left	80	25	25	25	25	25	25	25	25	25	50	25	50
		Northbound Right	*	*	*	*	*	25	75	*	*	25	75	50	**125**
		Southbound Left	300	25	25	25	25	50	125	25	25	50	125	75	225

Note: * = Does not exist or is not projected to exist

Table XI: Queuing Analysis (AASHTO Calculated) (Continued)

ID	*Intersection*	*Existing Queue Storage Length (ft.)*		*Existing*		*Opening Year No Project*		*Opening Year plus Phase 1*		*Cumulative 5-Year No Project*		*Cumulative 5-Year plus* Phase 1		*Cumulative 5-Year plus* Buildout	
				AM	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*
10	Caldwell Avenue / Pinkham Street	Eastbound Left	165	50	50	50	50	50	50	75	75	75	75	75	75
		Southbound Left	200	25	25	25	25	50	25	25	25	50	25	50	25
11	Lovers Lane / Caldwell Avenue	Eastbound Left	230	50	125	75	150	75	175	75	175	100	200	100	**250**
		Westbound Left	90	75	50	100	75	100	75	100	75	100	75	**100**	75
		Northbound Left	150	75	100	100	100	100	100	100	100	100	100	100	100
		Southbound Left	125	125	125	150	125	150	125	150	150	175	150	**175**	150
12	Road 148 / Caldwell Avenue	Northbound Left	*	*	*	*	*	*	*	25	25	25	25	25	**25**
		Southbound Left	*	*	*	*	*	*	*	50	25	50	25	**50**	25

Note: * = Does not exist or is not projected to exist

Project's Pro-Rata Fair Share of Future Transportation Improvements

The Project component's fair share percentage impact to study intersections projected to fall below their LOS threshold and which are not covered by an existing impact fee program is provided in Table XII and Table XIII. The pro-rata fair shares were calculated utilizing the Existing, Project Only Trips and Cumulative 2046 Year plus Buildout volumes. Since the critical peak period for the study facilities was determined to be during the AM peak, the AM peak volumes are utilized to determine the Project's pro-rata fair share.

It is recommended that the Project components contribute their equitable fair share as listed in Table XII and Table XIII for the future improvements necessary to maintain an acceptable LOS. However, fair share contributions should only be made for those facilities or portion thereof currently not funded by the responsible agencies roadway impact fee program(s) or grant funding, as appropriate. For those improvements not presently covered by local and regional roadway impact fee programs or grant funding, it is recommended that the Project contribute its equitable fair share. Payment of the Project's equitable fair share in addition to the local and regional impact fee programs would satisfy the Project's traffic cumulative impacts.

This study does not provide construction costs for the recommended improvement measures. Therefore, if the recommended improvement measures are implemented, it is recommended that the developer work with the City of Visalia, as appropriate, to develop the estimated construction cost(s).

Table XII: Single-Family Residential Fair Share of Future Roadway Improvements

ID	*Intersection*	*Existing Traffic Volumes (AM Peak)*	*Project Only Trips (AM Peak)*	*Cumulative 5-Year plus Buildout Traffic Volumes (AM Peak)*	*Project's Fair Share (%)*
12	Road 148 / Caldwell Avenue	814	13	1,236	3.1

Note: Project's Fair Share (%) = ((Project Only Trips) / (Cumulative 2046 Year + Buildout Traffic Volumes) – (Existing Traffic Volumes)) x 100

Table XIII: Multi-Family Residential Fair Share of Future Roadway Improvements

ID	*Intersection*	*Existing Traffic Volumes (AM Peak)*	*Project Only Trips (AM Peak)*	*Cumulative 5-Year plus Buildout Traffic Volumes (AM Peak)*	*Project's Fair Share (%)*
12	Road 148 / Caldwell Avenue	814	10	1,236	2.4

Note: Project's Fair Share (%) = ((Project Only Trips) / (Cumulative 2046 Year + Buildout Traffic Volumes) – (Existing Traffic Volumes)) x 100

Conclusions and Recommendations

Conclusions and recommendations regarding the proposed Project are presented below.

Existing Traffic Conditions

- JLB conducted a search of the Statewide Integrated Traffic Records System (SWITRS) to obtain collision reports for the most recent three-year period. Based on a review of the collision reports, a total of 26 collisions were reported within the influence zone of the study intersections. All study intersections have experienced a relatively low number of collisions per year. After thorough review of the data contained within the collision reports for the three-year analysis period, no additional changes are recommended to the study intersections as a result of collision activity.
- At present, the study intersection of Lovers Lane at Walnut Avenue exceeds its LOS threshold during the AM peak period. It is recommended that the following be considered for implementation to improve the LOS at this intersection.
  - Lovers Lane / Walnut Avenue
    - Add an eastbound left-turn lane;
    - Modify the eastbound left-through lane to a through lane;
    - Add a westbound left-turn lane;
    - Modify the westbound left-through-right lane to a through-right lane;
    - Modify the phasing of the intersection to protective left-turn phasing in all directions; and
    - Modify the traffic signal to accommodate the modified geometrics.

Opening Year No Project Traffic Conditions

- Under this scenario, the study intersection of Lovers Lane at Walnut Avenue is projected to continue exceeding its LOS threshold during the AM peak period. It is recommended that the following be considered for implementation to improve the LOS at this intersection.
  - Lovers Lane / Walnut Avenue
    - Add an eastbound left-turn lane;
    - Modify the eastbound left-through lane to a through lane;
    - Add a westbound left-turn lane;
    - Modify the westbound left-through-right lane to a through-right lane;
    - Modify the phasing of the intersection to protective left-turn phasing in all directions; and
    - Modify the traffic signal to accommodate the modified geometrics.

Opening Year plus Phase 1 Traffic Conditions

- To ensure that motorists have the appropriate corner sight distance, the Project should ensure that it does not build any obstructions greater than two (2) feet above street grade within the hatched triangular areas as depicted in the figures included in Appendix H.
- In Phase 1, the Project is estimated to generate approximately 2,654 daily trips, 204 AM peak hour trips and 272 PM peak hour trips.
- JLB analyzed the location of the existing and proposed roadways and access points relative to those in the vicinity of the Project site. A review of the existing and proposed roadways and access points

indicated that they are located at points that minimize traffic operational impacts to existing and future roadway networks.

- It is recommended that the Project construct a Class II Bikeway along the Project's frontage to Lovers Lane and a Class I Bikeway along the Projects frontage to Cameron Creek.
- It is recommended that the Project, City of Visalia and VUSD work together to implement a plan which completes a walkway surface along the south side of K Avenue on the missing stretch of sidewalk between Pinkham Street and Lovers Lane.
- Under this scenario, the study intersections of Lovers Lane at Walnut Avenue and Lovers Lane at Sunnyside Avenue are projected to exceed their LOS threshold during one of the peak periods. It is recommended that the following be considered for implementation to improve the LOS at these intersections.
  - Lovers Lane / Walnut Avenue
    - Add an eastbound left-turn lane;
    - Modify the eastbound left-through lane to a through lane;
    - Add a westbound left-turn lane;
    - Modify the westbound left-through-right lane to a through-right lane;
    - Modify the phasing of the intersection to protective left-turn phasing in all directions; and
    - Modify the traffic signal to accommodate the modified geometrics.
  - Lovers Lane / Sunnyside Avenue
    - Stripe an eastbound left-turn lane;
    - Modify the eastbound left-through-right lane to a through-right lane;
    - Add a westbound left-turn lane;
    - Modify the westbound left-through-right lane to a through-right lane;
    - Add a northbound right-turn lane;
    - Modify the northbound through-right lane to a through lane; and
    - Signalize the intersection with protective left-turn phasing in all directions.

Cumulative 5-Year No Project Traffic Conditions

- Under this scenario, the study intersection of Road 148 at Caldwell Avenue is projected to exceed its LOS threshold during the AM peak period. It is recommended that the following be considered for implementation to improve the LOS at this intersection.
  - Road 148 / Caldwell Avenue
    - Add a northbound left-turn lane;
    - Modify the northbound left-through-right lane to a through-right lane;
    - Add a southbound left-turn lane; and
    - Modify the southbound left-through-right lane to a through-right lane.

Cumulative 5-Year plus Phase 1 Traffic Conditions

- Under this scenario, the study intersections of Lovers Lane at Sunnyside Avenue and Road 148 at Caldwell Avenue are projected to exceed their LOS threshold during one or both peak periods.
- It is recommended that the following be considered for implementation to improve the LOS at the intersection of Lovers Lane at Sunnyside Avenue.
  - Lovers Lane / Sunnyside Avenue
    - Add an eastbound left-turn lane;
    - Modify the eastbound left-through-right lane to a through-right lane;
    - Add a westbound left-turn lane;
    - Modify the westbound left-through-right lane to a through-right lane;
    - Add a northbound right-turn lane;
    - Modify the northbound through-right lane to a through lane; and
    - Signalize the intersection with protective left-turn phasing in all directions.
- It is recommended that a fair share contribution be made by the Project for the following to improve the LOS at the intersection of Road 148 at Caldwell Avenue.
  - Road 148 / Caldwell Avenue
    - Add a northbound left-turn lane;
    - Modify the northbound left-through-right lane to a through-right lane;
    - Add a southbound left-turn lane; and
    - Modify the southbound left-through-right lane to a through-right lane.

Cumulative 5-Year plus Buildout Traffic Conditions

- In Phase 2, the Project is estimated to generate approximately 2,329 daily trips, 154 AM peak hour trips and 195 PM peak hour trips.
- It is recommended that the following be considered for implementation to improve the LOS at the intersection of Lovers Lane at Sunnyside Avenue.
  - Lovers Lane / Sunnyside Avenue
    - Add an eastbound left-turn lane;
    - Modify the eastbound left-through-right lane to a through-right lane;
    - Add a westbound left-turn lane;
    - Modify the westbound left-through-right lane to a through-right lane;
    - Add a northbound right-turn lane;
    - Modify the northbound through-right lane to a through lane; and
    - Signalize the intersection with protective left-turn phasing in all directions.
- It is recommended that a fair share contribution be made by the Project for the following to improve the LOS at the intersection of Road 148 at Caldwell Avenue.
  - Road 148 / Caldwell Avenue
    - Add a northbound left-turn lane;
    - Modify the northbound left-through-right lane to a through-right lane;
    - Add a southbound left-turn lane; and
    - Modify the southbound left-through-right lane to a through-right lane.

Queuing Analysis

- It is recommended that the City consider left-turn and right-turn lane storage lengths as indicated in the Queuing Analysis.

Project's Equitable Fair Share

- It is recommended that the Project components contribute their equitable Fair Share as presented in Table XII and Table XIII for those future improvements which are currently not covered by an existing impact fee program, maintenance funds or grant funds.

Study Participants

JLB Traffic Engineering, Inc. Personnel:

Jose Luis Benavides, PE, TE	Project Manager
Matthew Arndt, EIT	Project Engineer – Traffic Operations
Christian Sanchez, EIT	Project Engineer - Design
Adrian Benavides	Engineer II
Derian Cervantes	Engineer I
Diana Cortes	Engineering Aide
Dennis Wynn	Sr. Engineering Technician

Persons Consulted:

Jaymie Brauer	QK, Inc.
Leslie Blair	City of Visalia
Gary Mills	County of Tulare
Elizabeth Yelton	Caltrans
David Padilla,	Caltrans
Kasia Poleszczuk	Tulare County Association of Governments

References

American Association of State Highway and Transportation Officials. 2018. “A Policy on Geometric Design of Highways and Streets: The Green Book”. Washington: American Association of State Highway and Transportation Officials.

Caltrans. 2026. "California Manual on Uniform Traffic Control Devices". Sacramento: State of California.

Caltrans. 2020. “Vehicle Miles Traveled-Focused Transportation Impact Study Guide”. Sacramento: State of California.

Caltrans. 2019. "Highway Design Manual". Sacramento: State of California.

City of Visalia. 2014. "Visalia General Plan". Visalia: City of Visalia.

City of Visalia. 2016. "Procedures for Traffic Impact Analysis". Visalia: City of Visalia.

City of Visalia. 2017. “Active Transportation Plan”. Visalia: City of Visalia.

County of Tulare. 2012. "2020 Update Tulare County General Plan". Visalia: Tulare County.

Cubic ITS, Inc. 2019. “Synchro Studio 11 User Guide”. Sugar Land: Trafficware, LLC.

Institute of Transportation Engineers. 2021. "Trip Generation Manual 11th Edition". Washington: Institute of Transportation Engineers.

Transportation Research Board. 2016. "Highway Capacity Manual". Washington: The National Academy of Sciences.

Appendix A: Scope of Work

August 19, 2025

Leslie Blair
City of Visalia
315 East Acequia Avenue
Visalia, CA 93291

Via Email Only: leslie.blair@visalia.city

Subject: ***Proposed Scope of Work for the Preparation of a Traffic Impact Analysis in Support of the Clements Ranch located at the northeast quadrant of Lovers Lane and Caldwell Avenue in the City of Visalia (JLB Project 013-028)***

Dear Mrs. Blair,

JLB Traffic Engineering, Inc. (JLB) hereby submits this Draft Scope of Work for the preparation of a Traffic Impact Analysis (TIA) for the above referenced Project located in the City of Visalia. The Project proposes to develop the site with a mix of single-family (292 dwelling units) and multi-family residential (370 dwelling units) dwelling units on the northeast quadrant of Lovers Lane at Caldwell Avenue in the City of Visalia. Based on information provided to JLB, the Project will require a General Plan Amendment to shift densities within the Project.

The purpose of the TIA is to evaluate the potential on-site and off-site traffic impacts, identify short-term roadway and circulation needs, determine potential mitigation measures and identify any critical traffic issues that should be addressed in the ongoing planning process. To evaluate the on-site and off-site traffic impacts of the proposed Project, JLB proposes the following Scope of Work.

Scope of Work

- JLB will request from the Tulare County Association of Governments (Tulare CAG) traffic forecast model runs for the Base Year 2019 and Cumulative Five (5) Years plus Project scenarios.
- JLB will obtain recent (less than 12 months) or schedule and conduct new traffic counts at the study facility(ies) as necessary. These counts will include pedestrians and vehicles.
- JLB will perform a site visit to observe existing traffic conditions, especially during the AM and PM peak hours. Existing roadway conditions including intersection geometrics and traffic controls will be verified.
- JLB will evaluate on-site circulation and provide recommendations as necessary to improve circulation to and within the Project site.
- JLB will prepare California Manual on Uniform Traffic Control Devices (CA MUTCD) Warrant 1 "8-hour" for existing unsignalized intersections under the Existing Traffic Conditions scenario.
- JLB will prepare CA MUTCD CA MUTCD Warrant 3 “Peak Hour” signal warrants for unsignalized study intersections under the Opening Year plus Project and Cumulative Five (5) Years No Project and plus Project scenarios.

- JLB will forecast trip distribution based on turn count information and knowledge of the existing and planned circulation network in the vicinity of the Project.
- JLB will conduct a qualitative safe route to school evaluation from the Project site to the K-12
- school(s) which would most likely serve the Project on opening day.
- JLB will conduct a qualitative transit evaluation in the vicinity to the Project.
- JLB will conduct a qualitative bikeways evaluation in the vicinity to the Project.
- JLB will evaluate existing and forecast future levels of service (LOS) at the study intersections. JLB will use HCM 6th or HCM 2000 methodologies (as appropriate) within Synchro to perform this analysis for the AM and PM peak hours. JLB will identify causes of poor LOS.
- JLB will provide a table with the Project's pro-rata fair share allocation to improvement measures identified (if any) that are not currently funded by an existing funding source.
- JLB will prepare a corner sight distance evaluation for each of the three (3) proposed project driveways listed as study intersections.
- JLB will prepare a three-year collision analysis based on the Statewide Integrated Traffic Reporting System (SWITRS) database for all existing study intersections.

Study Scenarios

1. Existing Traffic Conditions with proposed improvement measures (if any);
2. Opening Year plus Project Buildout traffic conditions with proposed mitigation measures (if any); and
3. Cumulative 5-Year No Project Traffic Conditions with proposed improvement measures (if any); and
4. Cumulative 5-Year plus Project Buildout Traffic Conditions with proposed improvement measures (if any).

Weekday peak hours to be analyzed (Tuesday, Wednesday or Thursday only)

1. 7 - 9 AM peak hour
2. 4 - 6 PM peak hour

Study Intersections

1. Walnut Avenue / Lovers Lane
2. K Avenue / Pinkham Street
3. K Avenue / Lovers Lane
4. K Avenue / North-South Access Road (Future)
5. Northern East-West Access Road / Lovers Lane (Future)
6. Sunnyside Avenue / Lovers Lane
7. Southern East-West Access Road / Lovers Lane (Future)
8. Caldwell Avenue / Pinkham Street
9. Caldwell Avenue / Lovers Lane

Queuing analysis is included in the proposed Scope of Work for the study intersection(s) listed above under all study scenarios. This analysis will be utilized to recommend minimum storage lengths for left-turn and right-turn lanes at all study intersections.

Project Trip Generation

The trip generation rates for the proposed Project were obtained from the 11th Edition of the Trip Generation Manual published by the Institute of Transportation Engineers (ITE). Table I presents the trip generation for the proposed Project with trip generation rates for Single Family Detached Housing and Multifamily Housing (Low-Rise). At buildout, the proposed Project is estimated to generate approximately 5,248 daily trips, 352 AM peak hour trips and 463 PM peak hour trips.

Table I: Project Trip Generation

Land Use (ITE Code)	*Size*	*Unit*	*Daily*		*AM Peak Hour*						*PM Peak Hour*					
			Rate	*Total*	*Trip Rate*	*In*	*Out*	*In*	*Out*	*Total*	*Trip Rate*	*In*	*Out*	*In*	*Out*	*Total*
						%						*%*				
Single-Family Detached Housing (210)	292	d.u	9.43	2,754	0.70	26	74	53	151	204	0.94	63	37	173	101	274
Multifamily Housing (Low-Rise) (220)	370	d.u.	6.24	2,494	0.40	24	76	36	112	148	0.51	63	37	119	70	189
Total Project Trips				**5,248**				**89**	**263**	**352**				**292**	**171**	**463**

Note: d.u. = Dwelling Units

The Scope of Work is based on our understanding of this Project and our experience with similar TIAs. It is being assumed that comments will be received by September 9, 2025. If an extension to this date is required, please reach out with this request. It will be assumed that the Scope of Work is acceptable to the agency(ies) that have not reached out in any capacity by September 9, 2025. If you have any questions or require additional information, please contact me by phone at (559) 317-6234 or by e-mail at marndt@JLBtraffic.com.

Sincerely,

Matthew Arndt
Project Engineer – Traffic Operations

cc: Hector Guerra, County of Tulare
Gary Mills, County of Tulare
Lorena Mendibles, Caltrans
Scott Lau, Caltrans
Jose Luis Benavides, JLB Traffic Engineering, Inc.

Exhibit A – Aerial

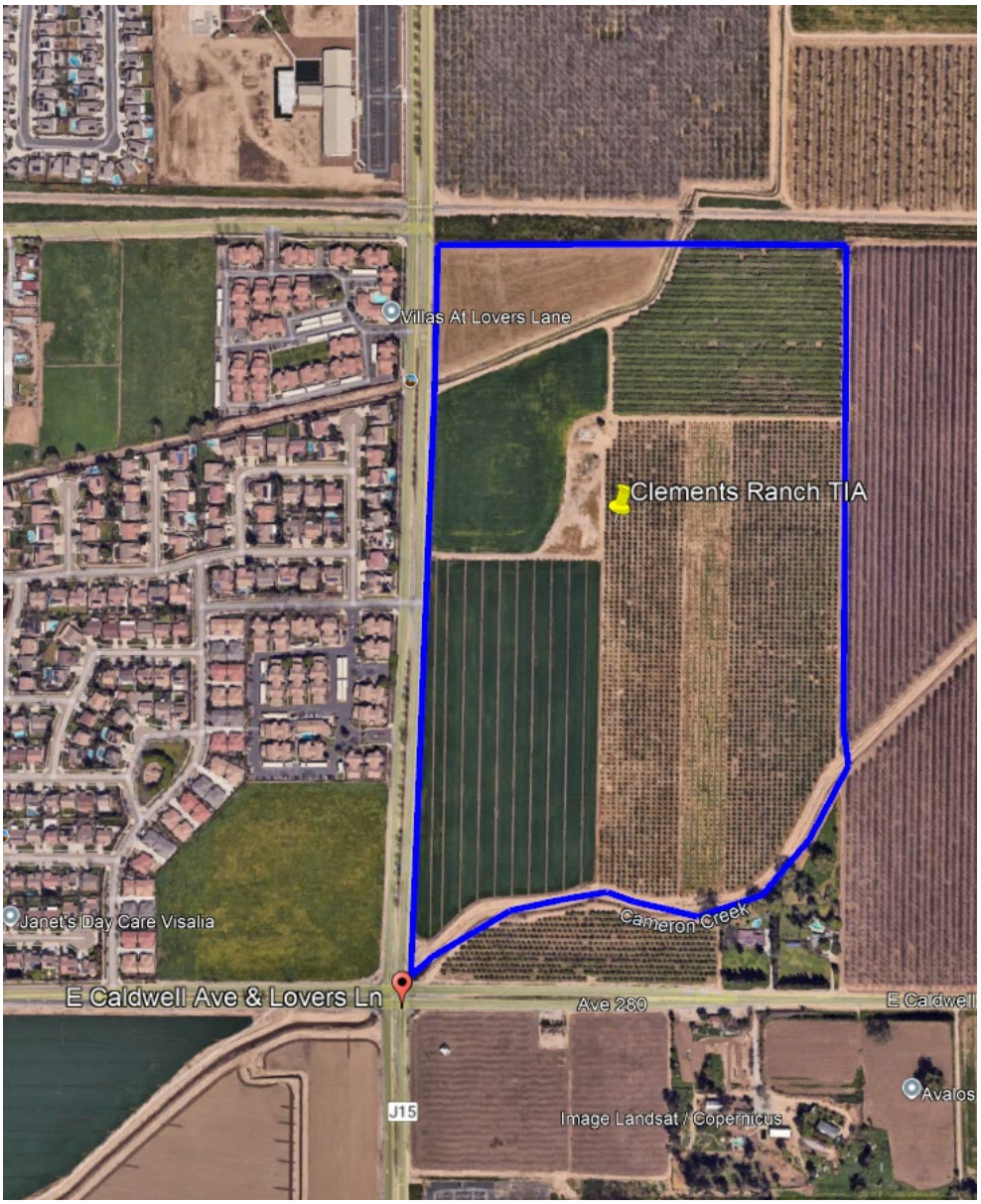
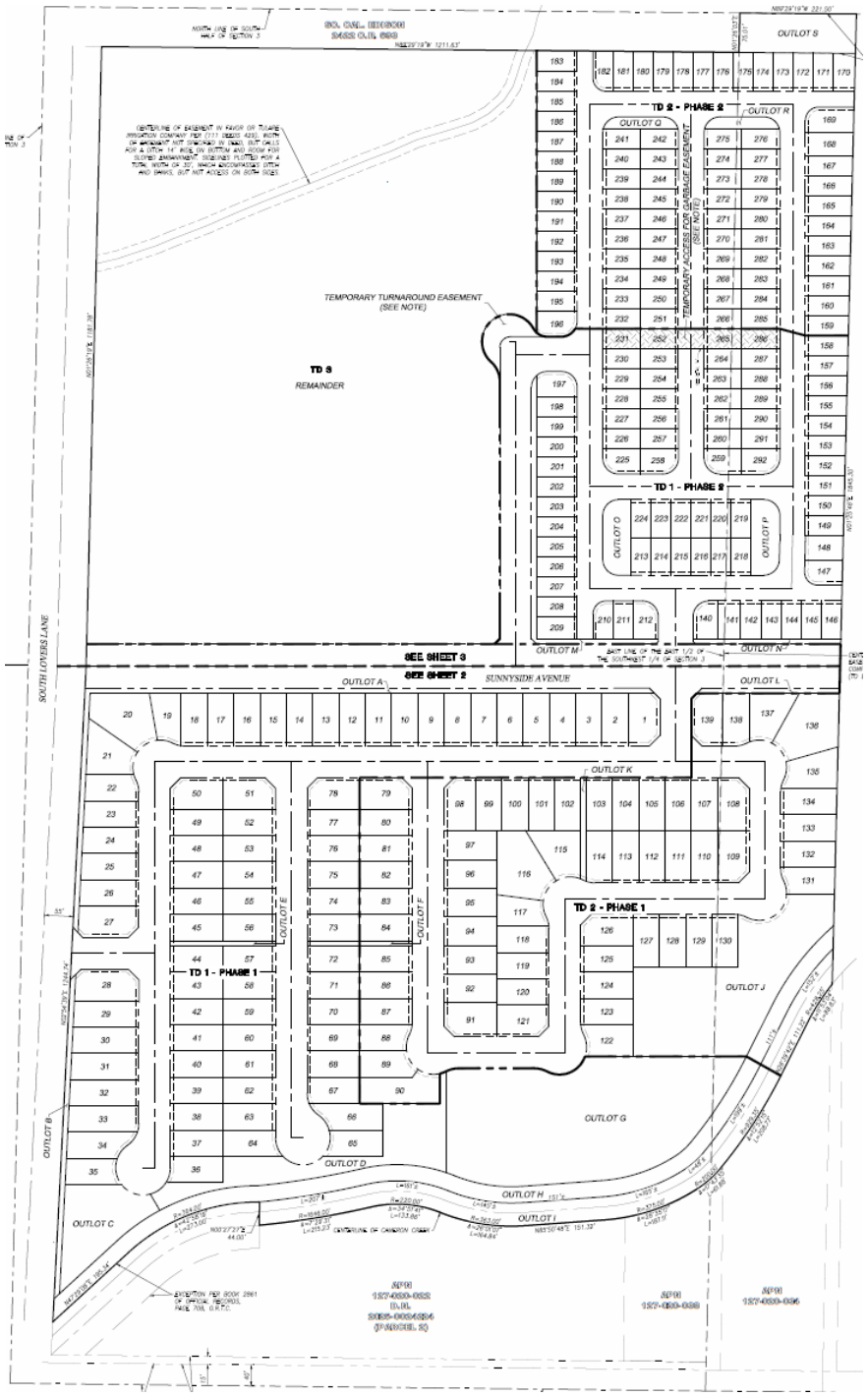


Exhibit B – Project Site Plan



Matt Arndt

From: Gary Mills <GMills@tularecounty.ca.gov>
Sent: Wednesday, August 20, 2025 11:25 AM
To: Matt Arndt; Leslie Blair
Cc: Mendibles, Lorena@DOT; Lau, Scott@DOT; Jose Benavides
Subject: RE: Clements Ranch TIA Draft Scope of Work

Hi Matt,

Please conduct peak hour analysis at Avenue 280 (Caldwell Avenue)/Road 148, just east of the Project. Make sure that school (Blue Oak Academy) is in session. The County would like to know Project traffic impacts at this location.

Thank you,

--

Gary A. Mills
Chief Planner
5961 S. Mooney Blvd.
Tulare County RMA
Visalia, CA 93277
Direct - (559) 624-7199

From: Matt Arndt <marndt@jlbtraffic.com>
Sent: Tuesday, August 19, 2025 9:38 AM
To: Leslie Blair <Leslie.Blair@visalia.city>
Cc: Hector Guerra <HGuerra@tularecounty.ca.gov>; Gary Mills <GMills@tularecounty.ca.gov>; Mendibles, Lorena@DOT <lorena.mendibles@dot.ca.gov>; Lau, Scott@DOT <Scott.Lau@dot.ca.gov>; Jose Benavides <jbenavides@jlbtraffic.com>
Subject: Clements Ranch TIA Draft Scope of Work

This Message Is From an External Sender
This message came from outside your organization.

Hello,

Attached to this email is the Draft Scope of Work for the Clements Ranch TIA. Clements Ranch proposes to construct a mix of single-family housing and multifamily housing on the northeast quadrant of Lovers Lane and Caldwell Avenue in the City of Visalia.

We kindly ask that you take a moment to review and comment on the proposed Draft Scope of Work. If you have any questions or require additional information, please contact me by phone at (559)317-6243 or by responding to this email. We appreciate your time and attention to this matter and look forward to hearing from you soon.

Sincerely,

VISALIA

Engineering & Building Department
Traffic Safety

September 2, 2025

JLB Traffic Engineering, INC.
516 W Shaw Ave, Ste.103
Fresno, CA 93710

Re: Clements Ranch TIA - Draft Scope of Work

Dear Mr. Benavides,

The City is in receipt of the TIA Draft Scope of Work prepared by JLB Traffic Engineering, Inc., dated August 19, 2025, for the Clements Ranch Development located on the northeast quadrant of Lovers Lane and Caldwell in the City of Visalia. The City has reviewed the scope and has the following comments:

1. The project applicant in earlier discussions with the City requested reassignment of the collector status roadway from K Ave (roadway segment east of Lovers Lane) to Sunnyside Ave (roadway segment east of Lovers Lane). This request is a deviation in the Circulation Element of the General Plan. Please note any deviation from the Circulation Element must be supported by a traffic study and needs to be included in the Scope of Work.
2. Project Trip Generation – The project is projected to generate 352 AM peak hour trips and 463 PM peak hour trips. Per City of Visalia Traffic Impact Analysis Procedures, a project of this size requires a category II level of analysis.
3. Study Scenarios - For category II analysis, study horizons are opening year and 5 year. Please include in the scope for opening year, the study scenario for both with and without project. The City is in agreement with the study scenarios listed.
4. Study Intersections – For a category II analysis, study area is to include all site access drives and all major intersections within ½-mile of the study site, either signalized or unsignalized. The City is in agreement with the study intersections listed in the Scope of Work, and requests additional intersections be included. Since Sunnyside Ave may change from a local road to a collector status roadway, the site's local road intersections with Sunnyside Ave need to be included in the scope, specifically for spacing, number and location.
5. For the arterial status roadways Lovers Lane and Caldwell Ave, an evaluation of median breaks (none, ¾ access and full opening), location and spacing needs to be included in the scope. Reference City of Visalia Design and Improvement Standard P-12 Typical Median Break Locations.
6. Signal Warrant Analysis – In addition to the analyses included in the Scope of Work, please include Warrant #1 8-Peak Hour Signal Warrant for the opening year scenarios. The City uses Warrant #1 8-Peak Hour Signal Warrant to consider an intersection for signalization. Traffic data will need to be collected for the 8 peak hours to perform the analysis under

existing traffic conditions scenario. These turn movement counts may then be projected for the opening year scenarios, with and without project.

7. Corner sight distance evaluation - Scope includes 3 proposed project driveway intersections. Additional intersections may need to be included with the inclusion of additional study intersections. See item #4.
8. Phasing Plan – Will the development be phased? If yes, please include evaluation of the phasing plan in Scope Of Work.
9. TIA required to comply with all the requirements and guidelines set forth in the City of Visalia Procedures for Traffic Impact Analysis. Anything inadvertently left out of the scope of work but required as described in the City of Visalia Procedures for Traffic Impact Analysis shall be included in the study.

Should you require additional information or have any questions, please feel free to contact me.

Sincerely,

Leslie Blair, P.E.
Senior Civil Engineer
(559)713-4633
leslie.blair@visalia.city

California Department of Transportation

DISTRICT 6 OFFICE
1352 WEST OLIVE AVENUE |P.O. BOX 12616 |FRESNO, CA 93778-2616
(559) 365-5140 | FAX (559) 488-4195 | TTY 711
www.dot.ca.gov

September 25, 2025

TUL-198-12.04
Clements Ranch
GTS: 35322

AMENDED

SENT VIA EMAIL

Mr. Matthew Arndt
JLB Traffic Engineering
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

Dear Mr. Arndt:

Caltrans has completed a review of the Transportation Impact Analysis (TIA) for the Proposed Scoping Document. The project is located at the southeast corner of East K Avenue and South Lovers Lane in Tulare County, approximately one mile south of State Route (SR) 198. The scoping document states that the project proposes to develop the site with a mix of single-family (292 dwelling units) and multi-family residential (370 dwelling units) dwelling units in two phases.

The mission of Caltrans is to provide a safe and reliable transportation network that serves all people and respects the environment. To ensure a safe and efficient transportation system, we encourage early consultation and coordination with local jurisdictions and project proponents on all development projects that utilize the multimodal transportation network.

Caltrans provides the following comments consistent with the State's smart mobility goals that support a vibrant economy and sustainable communities:

Traffic Operation Comments:

1. On page two, within the Study Scenarios section, please add:
    - Existing condition without any improvement measures

2. On page two, within the Study Intersections section, please include trip a trace for:
    - SR 198 onramp and offramp to Lovers Lane

3. On page two, within the Study Intersections section, although the queuing analysis is referenced as part of the proposed Scope of Work, it should be explicitly stated and clearly outlined within the Scope of Work section to ensure transparency and completeness.

4. On page three, per the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition, for Multifamily Housing (Land Use Code 220), the daily trip generation rate in Table I should be updated from 6.24 to 6.74.

If you have any other questions, please call Elizabeth Yelton, Transportation Planner at (559) 365-5140.

Sincerely,

Mr. DAVE PADILLA, Branch Chief
Local Development Branch

Appendix B: Traffic Counts

Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

JLB Traffic Engineering, Inc.
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

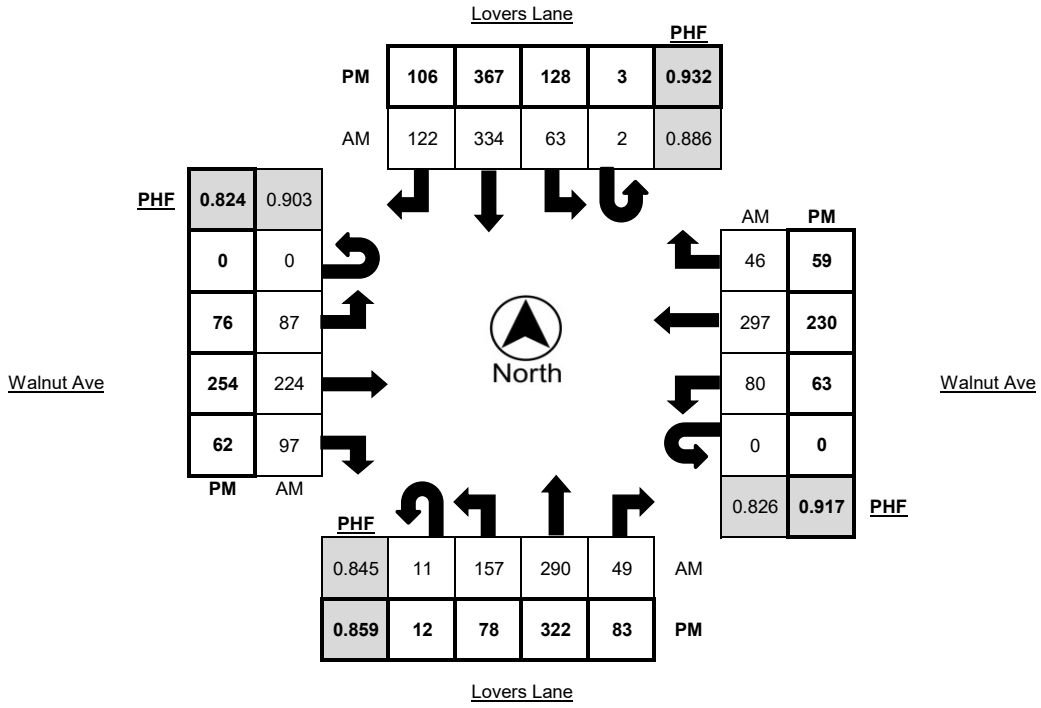
LOCATION Walnut Ave @ Lovers Lane
LATITUDE 36.3127
COUNTY Tulare
LONGITUDE -119.2606
COLLECTION DATE Tuesday, September 9, 2025
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 7:15 AM	1	13	66	4	3	1	14	50	7	3	0	13	16	18	4	0	17	50	9	1
7:15 AM - 7:30 AM	3	13	63	6	3	2	9	75	23	5	0	15	24	19	1	0	31	67	12	3
7:30 AM - 7:45 AM	3	37	64	20	5	0	19	94	26	2	0	17	64	16	2	0	31	79	18	3
7:45 AM - 8:00 AM	5	57	76	12	5	0	18	90	39	4	0	28	52	33	1	0	20	89	9	3
8:00 AM - 8:15 AM	3	38	82	6	7	1	14	68	32	7	0	22	62	29	1	0	14	80	12	0
8:15 AM - 8:30 AM	0	25	68	11	3	1	12	82	25	5	0	20	46	19	2	0	15	49	7	0
8:30 AM - 8:45 AM	0	17	43	11	5	1	12	56	26	2	0	22	41	12	3	0	17	58	8	2
8:45 AM - 9:00 AM	0	14	66	8	3	2	7	61	18	5	0	12	37	5	0	0	12	55	18	0
TOTAL	**15**	**214**	**528**	**78**	**34**	**8**	**105**	**576**	**196**	**33**	**0**	**149**	**342**	**151**	**14**	**0**	**157**	**527**	**93**	**12**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	2	19	83	13	8	2	33	90	42	4	0	26	58	26	2	0	14	57	20	1
4:15 PM - 4:30 PM	2	23	88	21	3	1	19	76	26	2	0	29	67	17	1	0	14	50	12	1
4:30 PM - 4:45 PM	3	19	77	19	1	0	34	100	28	3	0	18	50	7	0	0	11	60	8	2
4:45 PM - 5:00 PM	1	16	79	18	2	1	38	75	22	2	0	22	75	22	3	0	15	56	12	2
5:00 PM - 5:15 PM	2	18	82	17	2	1	24	111	25	5	0	16	63	14	0	0	19	52	25	0
5:15 PM - 5:30 PM	6	25	84	29	1	1	32	81	31	3	0	20	66	19	0	0	18	62	14	0
5:30 PM - 5:45 PM	1	12	64	15	0	1	25	73	12	0	0	38	66	15	3	0	9	63	9	2
5:45 PM - 6:00 PM	0	18	70	25	0	1	32	94	25	3	0	25	61	18	3	0	14	49	19	0
TOTAL	**17**	**150**	**627**	**157**	**17**	**8**	**237**	**700**	**211**	**22**	**0**	**194**	**506**	**138**	**12**	**0**	**114**	**449**	**119**	**8**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:30 AM - 8:30 AM	11	157	290	49	20	2	63	334	122	18	0	87	224	97	6	0	80	297	46	6
4:30 PM - 5:30 PM	12	78	322	83	6	3	128	367	106	13	0	76	254	62	3	0	63	230	59	4

	PHF	Trucks
AM	0.880	2.7%
PM	0.944	1.4%



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:
JLB Traffic Engineering, Inc.
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

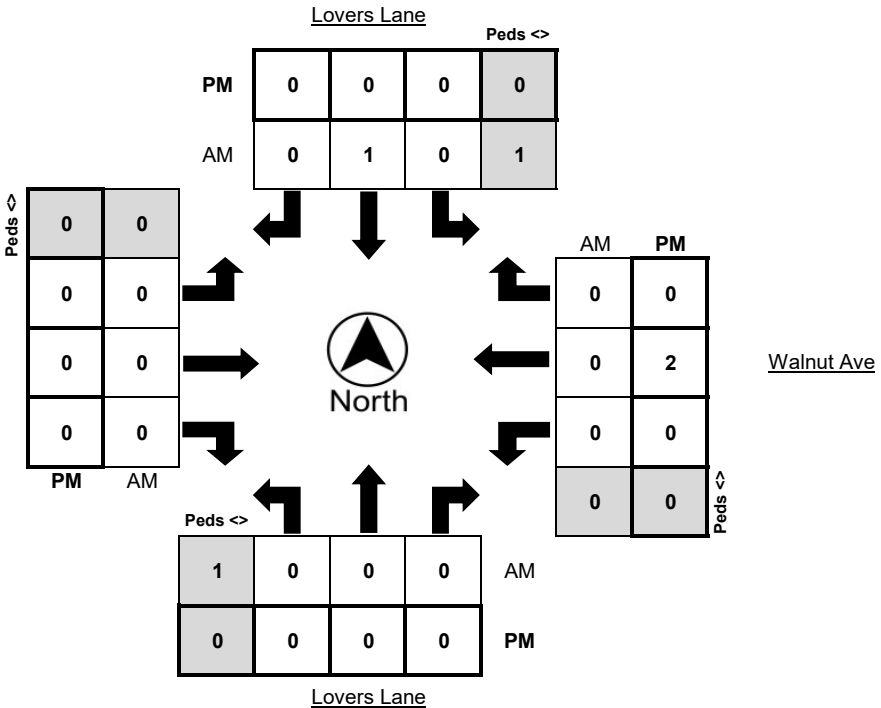
LOCATION Walnut Ave @ Lovers Lane
LATITUDE 36.3127
COUNTY Tulare
LONGITUDE -119.2606
COLLECTION DATE Tuesday, September 9, 2025
WEATHER Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**1**	**0**	**0**	**1**	**0**	**1**	**0**	**3**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**2**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:30 AM - 8:30 AM	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0
4:30 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0

	Bikes	Peds
AM Peak Total	1	2
PM Peak Total	2	0



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

JLB Traffic Engineering, Inc.
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

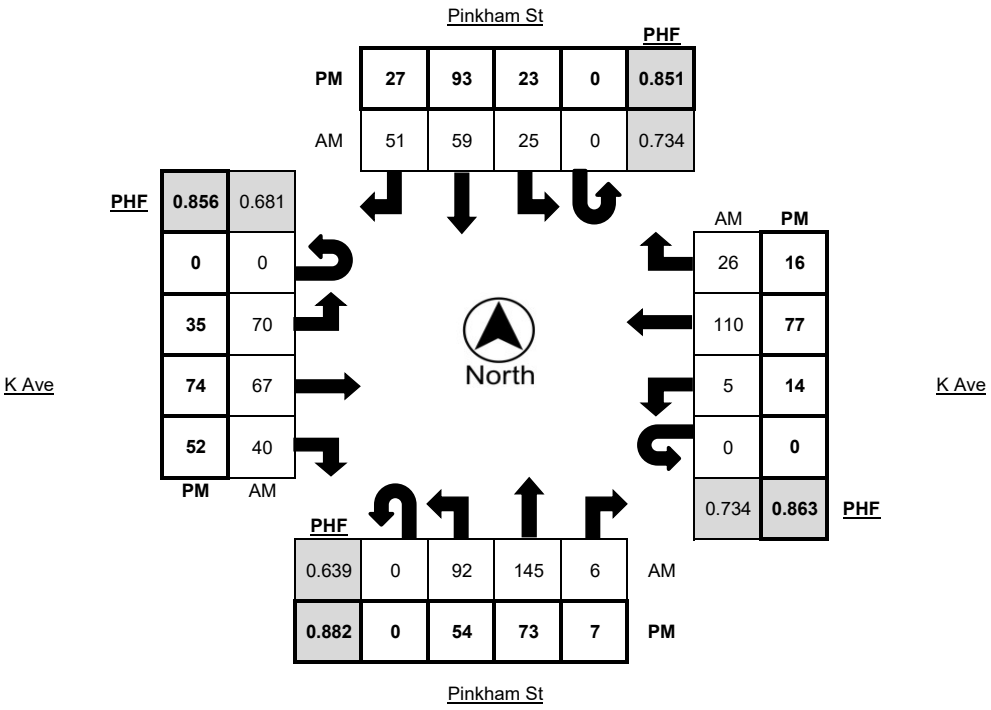
LOCATION K Ave @ Pinkham St
LATITUDE 36.3062
COUNTY Tulare
LONGITUDE -119.2695
COLLECTION DATE Tuesday, September 9, 2025
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 7:15 AM	0	15	14	3	1	0	1	6	5	0	0	3	11	1	0	0	5	15	2	0
7:15 AM - 7:30 AM	0	14	19	3	0	0	6	12	8	0	0	8	14	15	0	0	2	22	5	0
7:30 AM - 7:45 AM	0	29	28	0	2	0	11	9	12	0	0	12	21	4	0	0	1	21	2	1
7:45 AM - 8:00 AM	0	28	65	2	0	0	3	12	16	1	0	38	18	9	0	0	1	34	13	1
8:00 AM - 8:15 AM	0	21	33	1	0	0	5	26	15	0	0	12	14	12	2	0	1	33	6	1
8:15 AM - 8:30 AM	0	13	10	1	1	0	2	10	3	0	0	5	12	14	0	0	0	19	2	0
8:30 AM - 8:45 AM	0	7	9	1	0	0	4	10	9	1	0	7	8	6	0	0	2	9	1	0
8:45 AM - 9:00 AM	0	9	8	3	1	0	1	10	5	0	0	8	11	2	0	0	2	19	4	0
TOTAL	**0**	**136**	**186**	**14**	**5**	**0**	**33**	**95**	**73**	**2**	**0**	**93**	**109**	**63**	**2**	**0**	**14**	**172**	**35**	**3**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	0	9	16	1	2	0	8	21	7	0	0	8	13	18	1	0	3	18	4	0
4:15 PM - 4:30 PM	0	5	20	0	1	0	3	31	11	0	0	8	17	16	0	0	0	21	0	1
4:30 PM - 4:45 PM	0	9	14	3	1	0	8	23	6	0	0	6	14	14	2	0	1	18	2	0
4:45 PM - 5:00 PM	0	5	12	1	0	0	7	26	8	1	0	15	20	9	0	0	4	17	2	0
5:00 PM - 5:15 PM	0	13	24	1	0	0	14	19	9	0	0	11	24	12	0	0	6	15	10	0
5:15 PM - 5:30 PM	0	11	12	3	0	0	2	27	7	0	0	5	21	12	0	0	5	21	1	0
5:30 PM - 5:45 PM	0	16	19	1	0	0	4	22	7	1	0	10	13	13	0	0	0	23	3	0
5:45 PM - 6:00 PM	0	14	18	2	0	0	3	25	4	0	0	9	16	15	0	0	3	18	2	0
TOTAL	**0**	**82**	**135**	**12**	**4**	**0**	**49**	**194**	**59**	**2**	**0**	**72**	**138**	**109**	**3**	**0**	**22**	**151**	**24**	**1**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:15 AM - 8:15 AM	0	92	145	6	2	0	25	59	51	1	0	70	67	40	2	0	5	110	26	3
5:00 PM - 6:00 PM	0	54	73	7	0	0	23	93	27	1	0	35	74	52	0	0	14	77	16	0

	PHF	Trucks
AM	0.728	1.1%
PM	0.862	0.2%



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:
JLB Traffic Engineering, Inc.
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

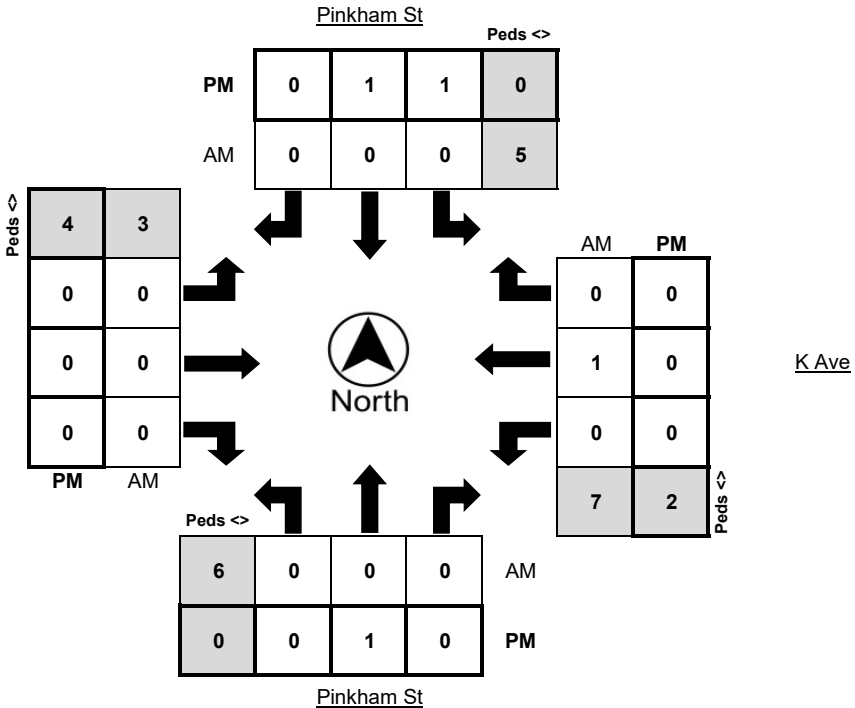
LOCATION K Ave @ Pinkham St
LATITUDE 36.3062
COUNTY Tulare
LONGITUDE -119.2695
COLLECTION DATE Tuesday, September 9, 2025
WEATHER Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	2	0	0	0	2	0	0	0	2	0	0	0	1
7:30 AM - 7:45 AM	0	0	0	2	0	0	0	3	0	0	0	0	0	1	0	2
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	1	0	0	0	1	0	0	0	4	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**7**	**0**	**1**	**0**	**3**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	1	1	0	1	0	0	0	2	0	0	0	0
4:45 PM - 5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
5:45 PM - 6:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
TOTAL	**0**	**2**	**0**	**0**	**2**	**2**	**0**	**3**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**5**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:15 AM - 8:15 AM	0	0	0	5	0	0	0	6	0	0	0	7	0	1	0	3
5:00 PM - 6:00 PM	0	1	0	0	1	1	0	0	0	0	0	2	0	0	0	4

	Bikes	Peds
AM Peak Total	1	21
PM Peak Total	3	6



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

JLB Traffic Engineering, Inc.
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

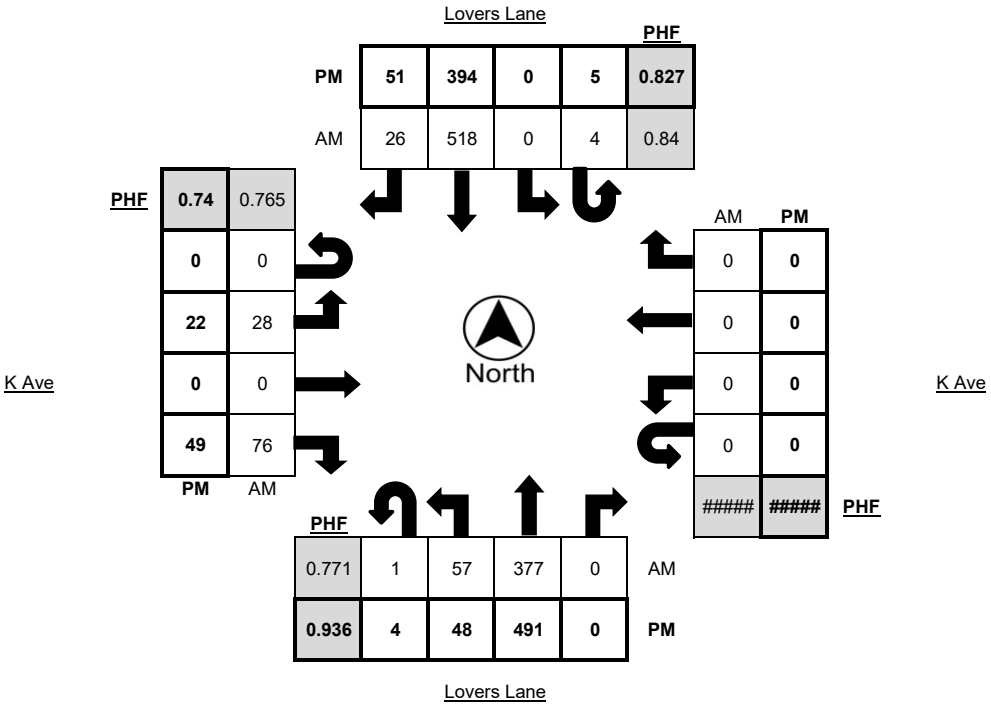
LOCATION K Ave @ Lovers Lane
LATITUDE 36.3056
COUNTY Tulare
LONGITUDE -119.2606
COLLECTION DATE Tuesday, September 9, 2025
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 7:15 AM	0	4	73	0	4	3	0	66	9	3	0	5	0	13	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	5	67	0	2	0	0	107	7	3	0	5	0	15	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	9	94	0	6	0	0	159	4	1	0	12	0	22	0	0	0	0	0	0
7:45 AM - 8:00 AM	1	23	95	0	7	2	0	149	8	4	0	7	0	23	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	20	121	0	7	2	0	103	7	3	0	4	0	16	2	0	0	0	0	0
8:15 AM - 8:30 AM	1	5	80	0	3	2	0	92	12	3	0	4	0	4	0	0	0	0	0	0
8:30 AM - 8:45 AM	2	5	62	0	4	1	0	80	4	6	0	2	0	7	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	8	84	0	3	0	0	63	8	2	0	3	0	7	0	0	0	0	0	0
TOTAL	**4**	**79**	**676**	**0**	**36**	**10**	**0**	**819**	**59**	**25**	**0**	**42**	**0**	**107**	**2**	**0**	**0**	**0**	**0**	**0**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	1	9	116	0	7	2	0	93	12	1	0	3	0	13	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	11	129	0	4	1	0	96	12	2	0	7	0	10	1	0	0	0	0	0
4:30 PM - 4:45 PM	0	10	111	0	0	0	0	90	11	3	0	5	0	11	1	0	0	0	0	0
4:45 PM - 5:00 PM	2	10	125	0	2	0	0	89	15	1	0	5	0	9	0	0	0	0	0	0
5:00 PM - 5:15 PM	2	17	126	0	2	4	0	119	13	4	0	5	0	19	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	6	115	0	1	1	0	106	14	1	0	7	0	8	0	0	0	0	0	0
5:30 PM - 5:45 PM	2	15	96	0	0	0	0	84	11	0	0	6	0	7	0	0	0	0	0	0
5:45 PM - 6:00 PM	1	12	93	0	0	2	0	94	12	3	0	10	0	8	0	0	0	0	0	0
TOTAL	**8**	**90**	**911**	**0**	**16**	**10**	**0**	**771**	**100**	**15**	**0**	**48**	**0**	**85**	**2**	**0**	**0**	**0**	**0**	**0**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:15 AM - 8:15 AM	1	57	377	0	22	4	0	518	26	11	0	28	0	76	2	0	0	0	0	0
4:15 PM - 5:15 PM	4	48	491	0	8	5	0	394	51	10	0	22	0	49	2	0	0	0	0	0

	PHF	Trucks
AM	0.882	3.2%
PM	0.872	1.9%



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:
JLB Traffic Engineering, Inc.
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

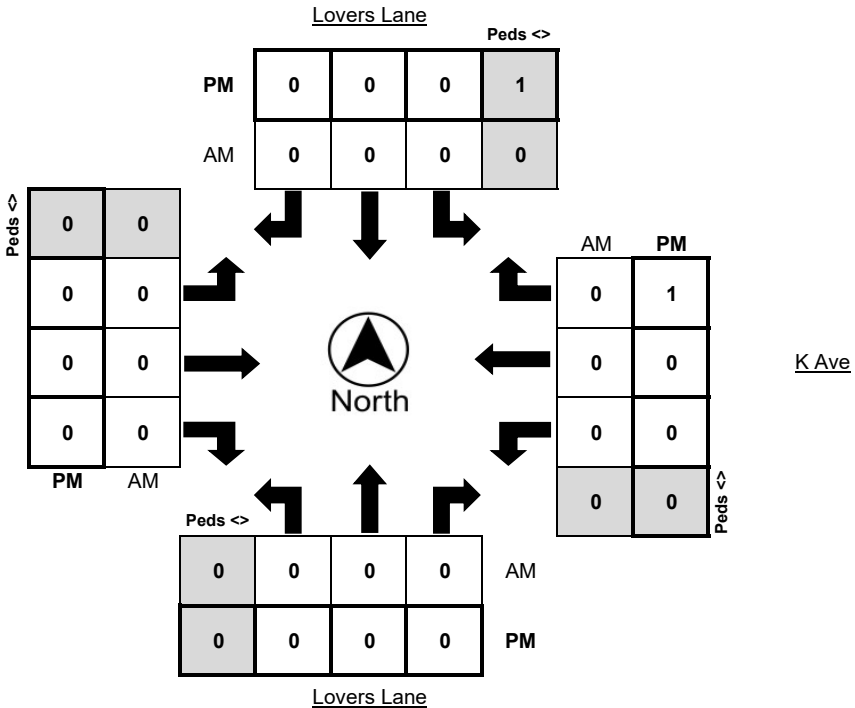
LOCATION K Ave @ Lovers Lane
LATITUDE 36.3056
COUNTY Tulare
LONGITUDE -119.2606
COLLECTION DATE Tuesday, September 9, 2025
WEATHER Clear

Time	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
7:00 AM - 7:15 AM	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Time	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
4:00 PM - 4:15 PM	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**3**

PEAK HOUR	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
7:15 AM - 8:15 AM	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:15 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0

AM Peak Total	Bikes	Peds
PM Peak Total	0	0
	1	**1**



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

JLB Traffic Engineering, Inc.
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

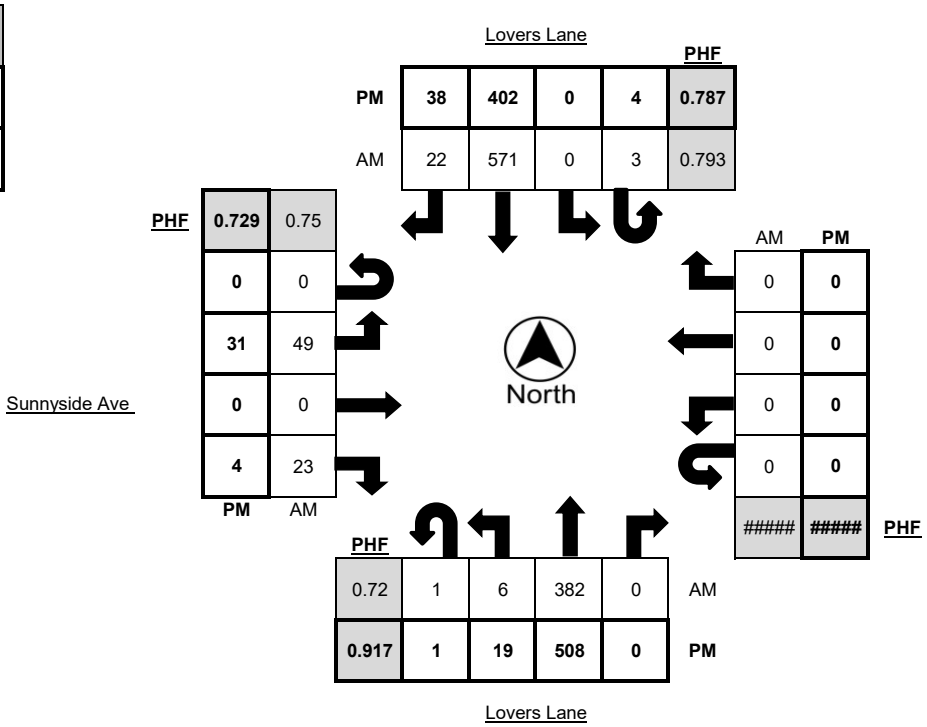
LOCATION Sunnyside Ave @ Lovers Lane
LATITUDE 36.3020
COUNTY Tulare
LONGITUDE -119.2607
COLLECTION DATE Tuesday, September 9, 2025
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 7:15 AM	0	0	60	0	5	1	0	78	4	3	0	14	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	2	58	0	3	0	0	113	6	3	0	13	0	1	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	1	86	0	6	2	0	183	3	1	0	15	0	7	0	0	0	0	0	0
7:45 AM - 8:00 AM	1	0	106	0	8	0	0	166	4	3	0	12	0	12	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	3	132	0	8	1	0	109	9	4	0	9	0	3	1	0	0	0	0	0
8:15 AM - 8:30 AM	0	1	80	0	4	2	0	84	10	3	0	3	0	5	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	63	0	3	1	0	82	4	5	0	3	0	1	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	1	85	0	3	1	0	69	1	3	0	5	0	1	0	0	0	0	0	0
TOTAL	**1**	**8**	**670**	**0**	**40**	**8**	**0**	**884**	**41**	**25**	**0**	**74**	**0**	**30**	**1**	**0**	**0**	**0**	**0**	**0**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	0	1	119	0	7	0	0	100	4	1	0	6	0	2	1	0	0	0	0	0
4:15 PM - 4:30 PM	0	4	140	0	3	0	0	93	12	4	0	3	0	2	1	0	0	0	0	0
4:30 PM - 4:45 PM	1	5	115	0	0	0	0	87	10	2	0	7	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	3	123	0	2	2	0	90	9	1	0	11	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	7	130	0	2	2	0	132	7	4	0	10	0	2	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	4	110	0	2	2	0	98	11	1	0	8	0	1	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	1	106	0	0	2	0	82	15	0	0	5	0	1	0	0	0	0	0	0
5:45 PM - 6:00 PM	2	4	104	0	0	0	0	82	14	4	0	5	0	1	0	0	0	0	0	0
TOTAL	**3**	**29**	**947**	**0**	**16**	**8**	**0**	**764**	**82**	**17**	**0**	**55**	**0**	**9**	**2**	**0**	**0**	**0**	**0**	**0**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:15 AM - 8:15 AM	1	6	382	0	25	3	0	571	22	11	0	49	0	23	1	0	0	0	0	0
4:15 PM - 5:15 PM	1	19	508	0	7	4	0	402	38	11	0	31	0	4	1	0	0	0	0	0

	PHF	Trucks
AM	0.878	3.5%
PM	0.868	1.9%



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:
JLB Traffic Engineering, Inc.
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

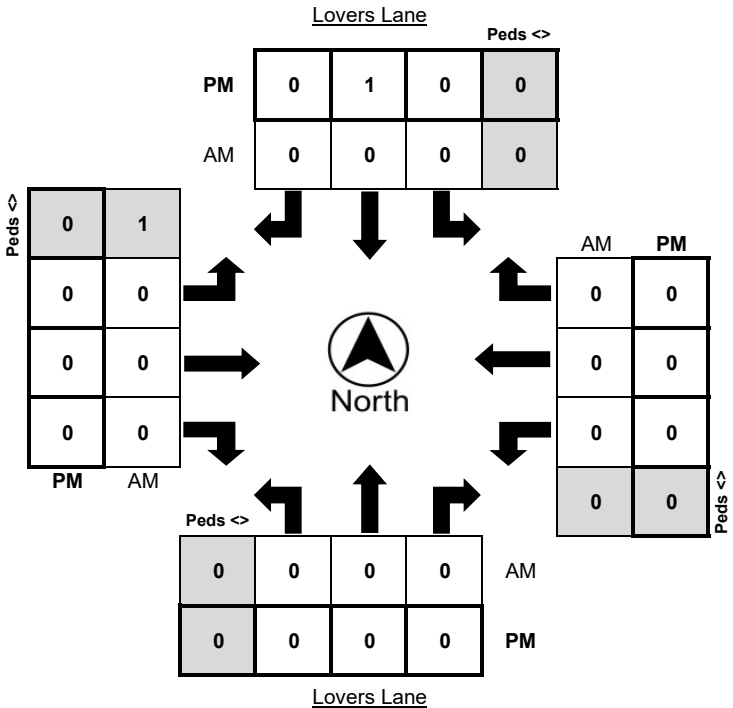
LOCATION Sunnyside Ave @ Lovers Lane
LATITUDE 36.3020
COUNTY Tulare
LONGITUDE -119.2607
COLLECTION DATE Tuesday, September 9, 2025
WEATHER Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:15 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM - 5:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0

	Bikes	Peds
AM Peak Total	0	1
PM Peak Total	1	0



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

JLB Traffic Engineering, Inc.
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

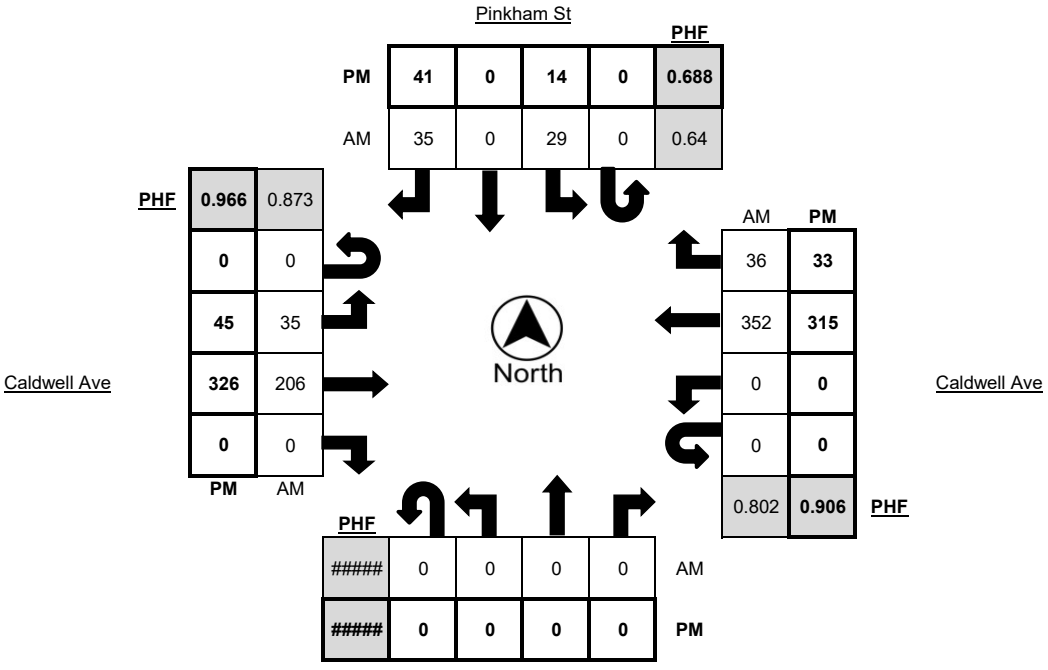
LOCATION Caldwell Ave @ Pinkham St
LATITUDE 36.2983
COUNTY Tulare
LONGITUDE -119.2698
COLLECTION DATE Tuesday, September 9, 2025
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 7:15 AM	0	0	0	0	0	0	6	0	5	0	0	1	26	0	2	0	0	36	5	2
7:15 AM - 7:30 AM	0	0	0	0	0	0	8	0	13	0	0	5	52	0	1	0	0	41	3	2
7:30 AM - 7:45 AM	0	0	0	0	0	0	14	0	11	0	0	11	58	0	2	0	0	67	12	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	6	0	7	0	0	8	60	0	2	0	0	87	7	1
8:00 AM - 8:15 AM	0	0	0	0	0	0	6	0	9	0	0	7	45	0	0	0	0	113	8	1
8:15 AM - 8:30 AM	0	0	0	0	0	0	3	0	8	0	0	9	43	0	2	0	0	85	9	1
8:30 AM - 8:45 AM	0	0	0	0	0	0	2	0	6	0	0	8	35	0	3	0	0	71	6	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	4	0	12	0	0	8	52	0	1	0	0	63	1	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**49**	**0**	**71**	**0**	**0**	**57**	**371**	**0**	**13**	**0**	**0**	**563**	**51**	**7**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	0	0	0	0	0	0	2	0	9	0	0	14	79	0	2	0	0	72	3	1
4:15 PM - 4:30 PM	0	0	0	0	0	0	3	0	17	0	0	12	78	0	0	0	0	86	9	3
4:30 PM - 4:45 PM	0	0	0	0	0	0	6	0	7	0	0	11	85	0	0	0	0	73	10	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	1	0	11	1	0	8	84	0	2	0	0	66	8	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	4	0	6	0	0	14	79	0	0	0	0	90	6	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	2	0	17	0	0	8	82	0	1	0	0	83	7	2
5:30 PM - 5:45 PM	0	0	0	0	0	0	3	0	8	0	0	10	80	0	0	0	0	79	4	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	1	0	7	0	0	19	76	0	1	0	0	67	8	1
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**22**	**0**	**82**	**1**	**0**	**96**	**643**	**0**	**6**	**0**	**0**	**616**	**55**	**7**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:30 AM - 8:30 AM	0	0	0	0	0	0	29	0	35	0	0	35	206	0	6	0	0	352	36	3
4:15 PM - 5:15 PM	0	0	0	0	0	0	14	0	41	1	0	45	326	0	2	0	0	315	33	3

	PHF	Trucks
AM	0.922	1.3%
PM	0.944	0.8%



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:
JLB Traffic Engineering, Inc.
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

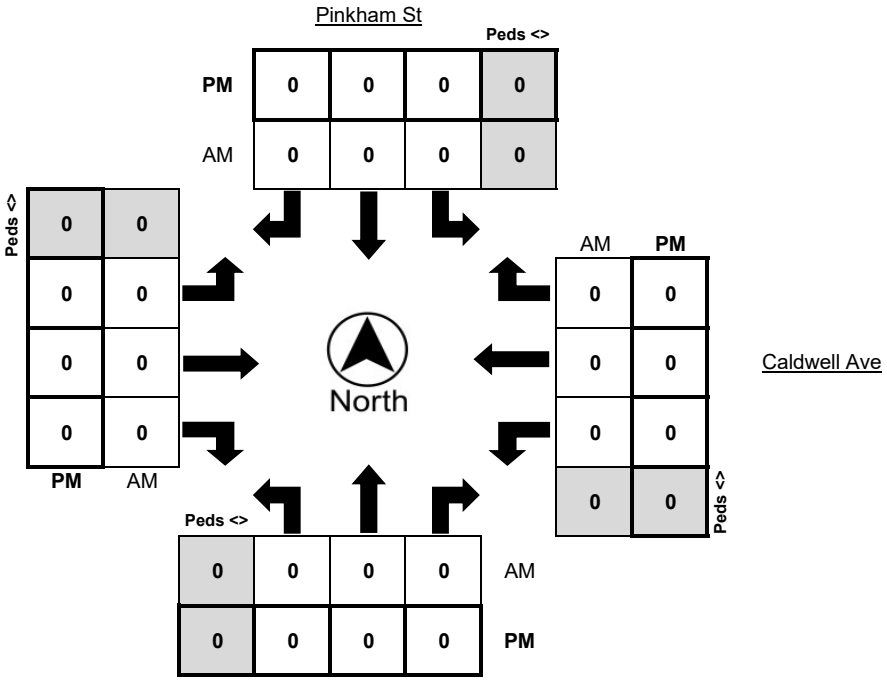
LOCATION Caldwell Ave @ Pinkham St
LATITUDE 36.2983
COUNTY Tulare
LONGITUDE -119.2698
COLLECTION DATE Tuesday, September 9, 2025
WEATHER Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:30 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Bikes	Peds
AM Peak Total	0	0
PM Peak Total	0	0



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

JLB Traffic Engineering, Inc.
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

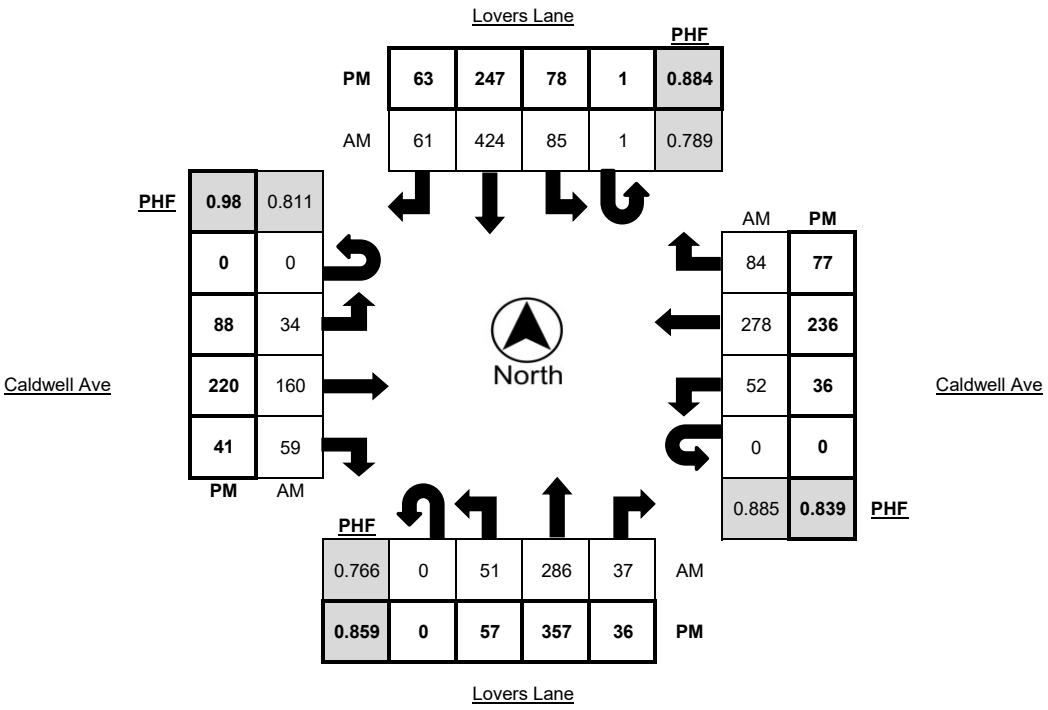
LOCATION Caldwell Ave @ Lovers Lane
LATITUDE 36.2983
COUNTY Tulare
LONGITUDE -119.2609
COLLECTION DATE Tuesday, September 9, 2025
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:00 AM - 7:15 AM	0	7	50	4	4	0	14	60	10	3	0	6	13	15	1	0	5	23	11	2
7:15 AM - 7:30 AM	0	2	40	3	2	0	11	96	10	3	0	7	37	27	1	0	7	30	10	2
7:30 AM - 7:45 AM	0	7	67	14	6	0	22	144	15	1	0	4	51	23	1	0	18	61	14	1
7:45 AM - 8:00 AM	0	12	67	9	8	0	29	128	19	3	0	9	41	18	1	0	14	69	34	1
8:00 AM - 8:15 AM	0	18	95	9	8	1	21	77	12	3	0	10	35	11	0	0	13	75	27	0
8:15 AM - 8:30 AM	0	14	57	5	3	0	13	75	15	4	0	11	33	7	2	0	7	73	9	0
8:30 AM - 8:45 AM	0	12	58	4	4	0	9	63	14	4	0	6	20	8	1	0	3	41	6	0
8:45 AM - 9:00 AM	0	7	62	7	4	0	9	44	20	3	0	15	22	8	1	0	7	36	6	0
TOTAL	**0**	**79**	**496**	**55**	**39**	**1**	**128**	**687**	**115**	**24**	**0**	**68**	**252**	**117**	**8**	**0**	**74**	**408**	**117**	**6**

	Northbound					Southbound					Eastbound					Westbound				
Time	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
4:00 PM - 4:15 PM	0	10	91	8	8	0	22	60	21	1	0	18	46	5	2	0	9	46	20	3
4:15 PM - 4:30 PM	0	18	104	9	4	0	23	55	16	2	0	23	51	14	0	0	9	60	16	3
4:30 PM - 4:45 PM	0	12	86	8	0	0	21	55	19	3	0	21	62	6	0	0	9	54	13	0
4:45 PM - 5:00 PM	0	16	83	10	1	1	16	63	10	1	0	17	53	13	0	0	8	52	24	1
5:00 PM - 5:15 PM	0	11	84	9	0	0	18	74	18	3	0	27	54	8	4	0	10	70	24	1
5:15 PM - 5:30 PM	0	14	82	8	0	1	25	70	25	2	0	22	56	9	1	0	11	49	15	2
5:30 PM - 5:45 PM	0	8	66	9	0	0	16	47	15	0	1	15	54	13	0	0	7	55	19	0
5:45 PM - 6:00 PM	0	7	74	4	0	0	14	52	13	3	0	19	57	3	1	0	2	58	18	1
TOTAL	**0**	**96**	**670**	**65**	**13**	**2**	**155**	**476**	**137**	**15**	**1**	**162**	**433**	**71**	**8**	**0**	**65**	**444**	**149**	**11**

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**	**U-Turn**	**Left**	**Thru**	**Right**	**Trucks**
7:30 AM - 8:30 AM	0	51	286	37	25	1	85	424	61	11	0	34	160	59	4	0	52	278	84	2
4:15 PM - 5:15 PM	0	57	357	36	5	1	78	247	63	9	0	88	220	41	4	0	36	236	77	5

	PHF	Trucks
AM	0.898	2.6%
PM	0.944	1.5%



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:
JLB Traffic Engineering, Inc.
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

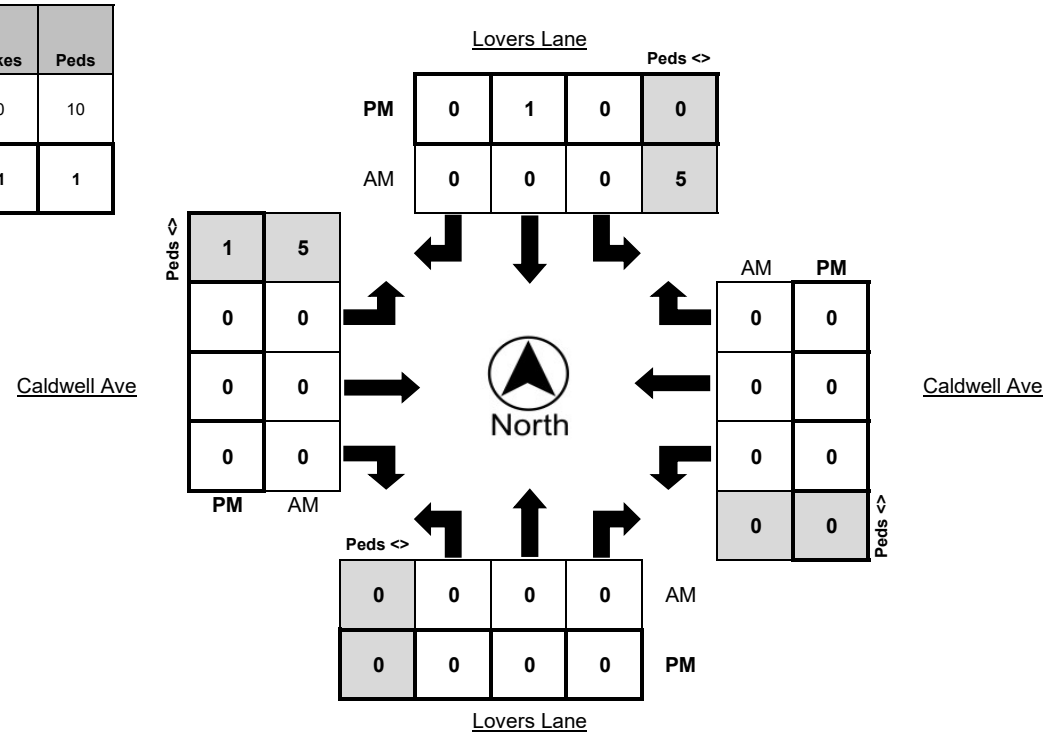
LOCATION Caldwell Ave @ Lovers Lane
LATITUDE 36.2983
COUNTY Tulare
LONGITUDE -119.2609
COLLECTION DATE Tuesday, September 9, 2025
WEATHER Clear

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	4
8:15 AM - 8:30 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM - 4:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**

	Northbound Bikes			N.Leg	Southbound Bikes			S.Leg	Eastbound Bikes			E.Leg	Westbound Bikes			W.Leg
PEAK HOUR	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
7:30 AM - 8:30 AM	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	5
4:15 PM - 5:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1

	Bikes	Peds
AM Peak Total	0	10
PM Peak Total	1	1



JLB Traffic Engineering, Inc.

516 West Shaw Avenue, Suite 103
Fresno, CA, 93704
Traffic Engineering, Transportation, & Parking Solutions
www.JLBtraffic.com

File Name : 07 Road 148 at Caldwell
Site Code : 00000000
Start Date : 10/23/2025
Page No : 1

Groups Printed- Unshifted

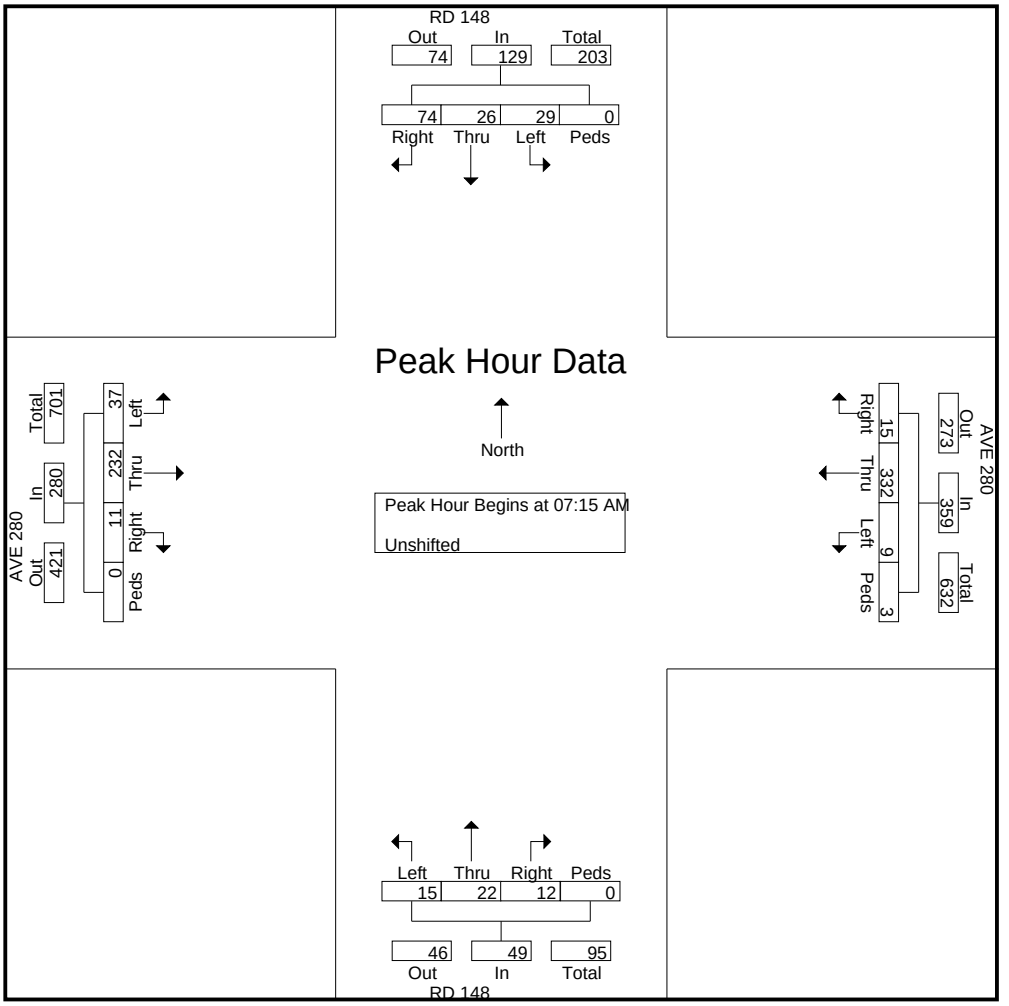
	RD 148 From North				AVE 280 From East				RD 148 From South				AVE 280 From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
07:00 AM	3	0	5	0	1	38	1	1	2	1	4	0	1	28	4	0	89
07:15 AM	4	5	12	0	3	47	3	0	1	5	2	0	2	40	4	0	128
07:30 AM	16	5	3	0	4	89	2	0	3	8	6	0	0	59	9	0	204
07:45 AM	24	11	5	0	6	110	2	3	4	6	5	0	6	80	11	0	273
Total	47	21	25	0	14	284	8	4	10	20	17	0	9	207	28	0	694
08:00 AM	30	5	9	0	2	86	2	0	4	3	2	0	3	53	13	0	212
08:15 AM	5	2	3	0	4	55	3	0	2	3	4	0	5	34	6	0	126
08:30 AM	3	0	1	0	1	55	0	0	1	4	2	0	3	40	1	0	111
08:45 AM	1	2	2	0	3	51	1	0	1	2	3	0	2	40	2	0	110
Total	39	9	15	0	10	247	6	0	8	12	11	0	13	167	22	0	559
*** BREAK ***																	
04:00 PM	9	5	4	0	6	69	5	0	8	5	3	0	4	85	2	0	205
04:15 PM	4	6	5	0	3	95	4	0	6	8	3	0	3	84	3	0	224
04:30 PM	5	2	3	0	3	73	4	0	1	2	3	0	5	68	4	0	173
04:45 PM	14	7	3	0	7	88	2	0	8	5	1	0	5	65	3	0	208
Total	32	20	15	0	19	325	15	0	23	20	10	0	17	302	12	0	810
05:00 PM	7	6	0	0	7	80	0	0	8	4	2	0	3	72	6	0	195
05:15 PM	3	3	1	0	4	87	4	0	0	3	3	0	6	88	5	0	207
05:30 PM	4	3	2	0	3	58	0	0	4	0	0	0	7	75	1	0	157
05:45 PM	4	2	1	0	6	70	3	0	3	1	1	0	5	95	3	0	194
Total	18	14	4	0	20	295	7	0	15	8	6	0	21	330	15	0	753
Grand Total	136	64	59	0	63	1151	36	4	56	60	44	0	60	1006	77	0	2816
Apprch %	52.5	24.7	22.8	0	5	91.8	2.9	0.3	35	37.5	27.5	0	5.2	88	6.7	0	
Total %	4.8	2.3	2.1	0	2.2	40.9	1.3	0.1	2	2.1	1.6	0	2.1	35.7	2.7	0	

JLB Traffic Engineering, Inc.

516 West Shaw Avenue, Suite 103
Fresno, CA, 93704
Traffic Engineering, Transportation, & Parking Solutions
www.JLBtraffic.com

File Name : 07 Road 148 at Caldwell
Site Code : 00000000
Start Date : 10/23/2025
Page No : 2

	RD 148 From North					AVE 280 From East					RD 148 From South					AVE 280 From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	4	5	**12**	0	21	3	47	**3**	0	53	1	5	2	0	8	2	40	4	0	46	128
07:30 AM	16	5	3	0	24	4	89	2	0	95	3	**8**	**6**	0	**17**	0	59	9	0	68	204
07:45 AM	24	**11**	5	0	40	**6**	**110**	2	**3**	**121**	**4**	6	5	0	15	**6**	**80**	11	0	**97**	**273**
08:00 AM	**30**	5	9	0	**44**	2	86	2	0	90	4	3	2	0	9	3	53	**13**	0	69	212
Total Volume	74	26	29	0	129	15	332	9	3	359	12	22	15	0	49	11	232	37	0	280	817
% App. Total	57.4	20.2	22.5	0		4.2	92.5	2.5	0.8		24.5	44.9	30.6	0		3.9	82.9	13.2	0		
PHF	.617	.591	.604	.000	.733	.625	.755	.750	.250	.742	.750	.688	.625	.000	.721	.458	.725	.712	.000	.722	.748

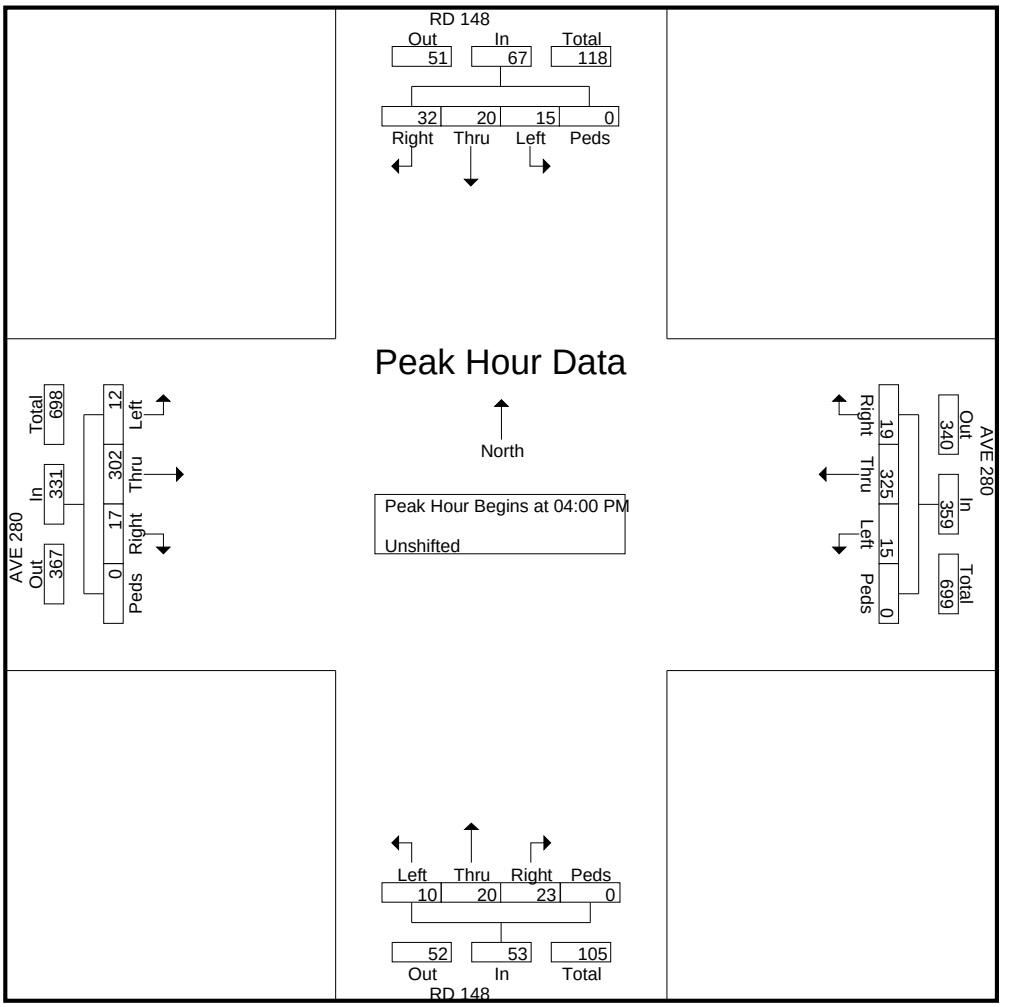


JLB Traffic Engineering, Inc.

516 West Shaw Avenue, Suite 103
Fresno, CA, 93704
Traffic Engineering, Transportation, & Parking Solutions
www.JLBtraffic.com

File Name : 07 Road 148 at Caldwell
Site Code : 00000000
Start Date : 10/23/2025
Page No : 3

	RD 148 From North					AVE 280 From East					RD 148 From South					AVE 280 From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	9	5	4	0	18	6	69	**5**	0	80	**8**	5	**3**	0	16	4	**85**	2	0	**91**	205
04:15 PM	4	6	**5**	0	15	3	**95**	4	0	**102**	6	**8**	3	0	**17**	3	84	3	0	90	**224**
04:30 PM	5	2	3	0	10	3	73	4	0	80	1	2	3	0	6	**5**	68	**4**	0	77	173
04:45 PM	**14**	**7**	3	0	**24**	**7**	88	2	0	97	8	5	1	0	14	5	65	3	0	73	208
Total Volume	32	20	15	0	67	19	325	15	0	359	23	20	10	0	53	17	302	12	0	331	810
% App. Total	47.8	29.9	22.4	0		5.3	90.5	4.2	0		43.4	37.7	18.9	0		5.1	91.2	3.6	0		
PHF	.571	.714	.750	.000	.698	.679	.855	.750	.000	.880	.719	.625	.833	.000	.779	.850	.888	.750	.000	.909	.904



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

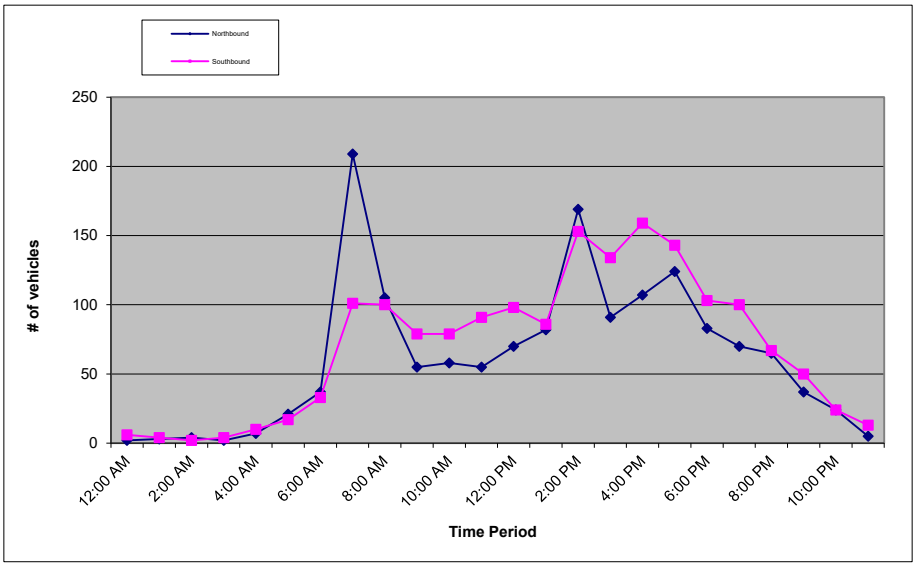
24 Hour Count Report

Prepared For: **JLB Traffic Engineering, Inc.**
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

STREET	Pinkham St	**LATITUDE**	36.30642008
SEGMENT	north of K Avenue	**LONGITUDE**	-119.2691045
COLLECTION DATE	Tuesday, September 9, 2025	**WEATHER**	Clear
NUMBER OF LANES	2		

	Northbound					Southbound					Hourly
Hour	1st	2nd	3rd	4th	**Total**	1st	2nd	3rd	4th	**Total**	**Totals**
12:00 AM	1	0	1	0	**2**	1	3	2	0	**6**	**8**
1:00 AM	1	0	1	1	**3**	1	2	1	0	**4**	**7**
2:00 AM	1	1	0	2	**4**	0	1	0	1	**2**	**6**
3:00 AM	0	2	0	0	**2**	1	1	0	2	**4**	**6**
4:00 AM	2	1	2	2	**7**	2	1	2	5	**10**	**17**
5:00 AM	2	3	11	5	**21**	3	3	6	5	**17**	**38**
6:00 AM	8	4	11	14	**37**	7	10	5	11	**33**	**70**
7:00 AM	19	32	42	116	**209**	12	26	32	31	**101**	**310**
8:00 AM	51	17	17	20	**105**	46	15	23	16	**100**	**205**
9:00 AM	13	15	12	15	**55**	12	24	22	21	**79**	**134**
10:00 AM	18	17	11	12	**58**	18	16	20	25	**79**	**137**
11:00 AM	6	16	19	14	**55**	24	22	21	24	**91**	**146**
12:00 PM	12	16	21	21	**70**	22	25	24	27	**98**	**168**
1:00 PM	24	15	15	28	**82**	20	27	20	19	**86**	**168**
2:00 PM	50	67	30	22	**169**	24	24	83	22	**153**	**322**
3:00 PM	22	20	27	22	**91**	36	26	33	39	**134**	**225**
4:00 PM	28	28	22	29	**107**	36	45	37	41	**159**	**266**
5:00 PM	45	18	32	29	**124**	42	36	33	32	**143**	**267**
6:00 PM	21	24	18	20	**83**	30	26	19	28	**103**	**186**
7:00 PM	15	20	21	14	**70**	30	20	29	21	**100**	**170**
8:00 PM	18	20	19	8	**65**	23	14	16	14	**67**	**132**
9:00 PM	10	10	7	10	**37**	16	14	14	6	**50**	**87**
10:00 PM	10	8	3	3	**24**	4	10	3	7	**24**	**48**
11:00 PM	2	3	0	0	**5**	5	1	3	4	**13**	**18**
Total	**47.3%**				**1485**	**52.7%**				**1656**	
	3141										

AM%	**34.5%**	**AM Peak**	**376**	**7:15 am to 8:15 am**	**AM P.H.F.**	**0.64**
PM%	**65.5%**	**PM Peak**	**325**	**1:45 pm to 2:45 pm**	**PM P.H.F.**	**0.72**



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

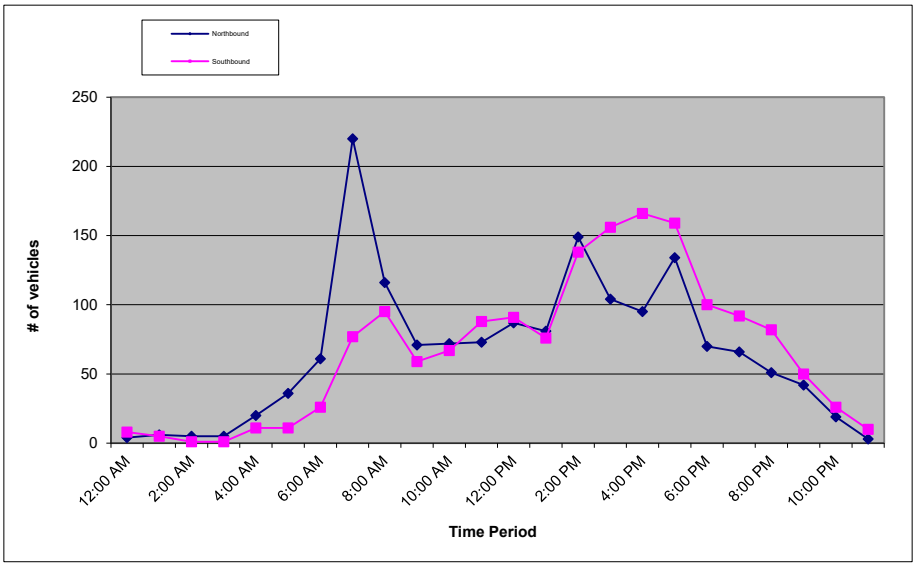
24 Hour Count Report

Prepared For: **JLB Traffic Engineering, Inc.**
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

STREET	Pinkham St	**LATITUDE**	36.30607696
SEGMENT	south of K Avenue	**LONGITUDE**	-119.268903
COLLECTION DATE	Tuesday, September 9, 2025	**WEATHER**	Clear
NUMBER OF LANES	2		

	Northbound					Southbound					Hourly
Hour	1st	2nd	3rd	4th	**Total**	1st	2nd	3rd	4th	**Total**	**Totals**
12:00 AM	1	0	3	0	**4**	2	3	2	1	**8**	**12**
1:00 AM	1	2	2	1	**6**	2	2	1	0	**5**	**11**
2:00 AM	1	1	0	3	**5**	0	1	0	0	**1**	**6**
3:00 AM	0	2	1	2	**5**	0	0	0	1	**1**	**6**
4:00 AM	2	3	7	8	**20**	2	2	4	3	**11**	**31**
5:00 AM	4	9	11	12	**36**	2	4	1	4	**11**	**47**
6:00 AM	8	8	17	28	**61**	4	8	5	9	**26**	**87**
7:00 AM	32	36	57	95	**220**	12	29	14	22	**77**	**297**
8:00 AM	55	24	17	20	**116**	39	24	18	14	**95**	**211**
9:00 AM	17	19	20	15	**71**	7	17	18	17	**59**	**130**
10:00 AM	22	14	15	21	**72**	13	22	18	14	**67**	**139**
11:00 AM	15	21	18	19	**73**	25	23	21	19	**88**	**161**
12:00 PM	11	26	27	23	**87**	18	24	19	30	**91**	**178**
1:00 PM	24	14	14	29	**81**	16	26	16	18	**76**	**157**
2:00 PM	45	47	30	27	**149**	24	21	59	34	**138**	**287**
3:00 PM	20	36	30	18	**104**	37	31	41	47	**156**	**260**
4:00 PM	26	25	26	18	**95**	42	47	38	39	**166**	**261**
5:00 PM	38	26	36	34	**134**	37	44	35	43	**159**	**293**
6:00 PM	19	21	18	12	**70**	29	23	16	32	**100**	**170**
7:00 PM	18	14	18	16	**66**	33	19	24	16	**92**	**158**
8:00 PM	15	19	12	5	**51**	31	16	17	18	**82**	**133**
9:00 PM	11	16	3	12	**42**	17	14	11	8	**50**	**92**
10:00 PM	5	8	2	4	**19**	7	9	5	5	**26**	**45**
11:00 PM	1	1	1	0	**3**	5	2	2	1	**10**	**13**
Total	**49.9%**				**1590**	**50.1%**				**1595**	
	3185										

AM%	**35.7%**	**AM Peak**	**347**	**7:15 am to 8:15 am**	**AM P.H.F.**	**0.74**
PM%	**64.3%**	**PM Peak**	**293**	**5:00 pm to 6:00 pm**	**PM P.H.F.**	**0.95**



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

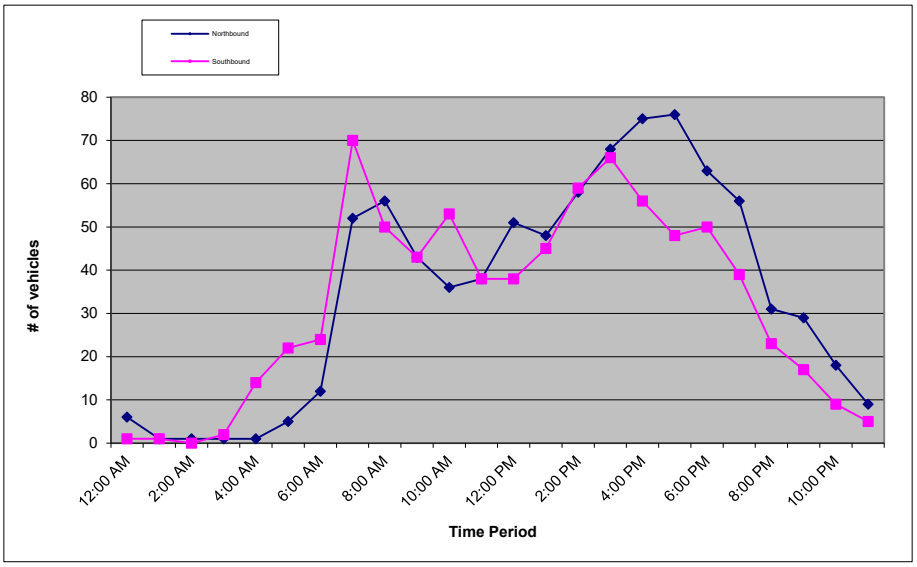
24 Hour Count Report

Prepared For: **JLB Traffic Engineering, Inc.**
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

STREET	Pinkham St	**LATITUDE**	36.29863485
SEGMENT	north of Caldwell Avenue	**LONGITUDE**	-119.2694208
COLLECTION DATE	Tuesday, September 9, 2025	**WEATHER**	Clear
NUMBER OF LANES	2		

	Northbound					Southbound					Hourly
Hour	1st	2nd	3rd	4th	**Total**	1st	2nd	3rd	4th	**Total**	**Totals**
12:00 AM	2	0	2	2	**6**	0	1	0	0	**1**	**7**
1:00 AM	0	0	1	0	**1**	0	0	1	0	**1**	**2**
2:00 AM	0	0	0	1	**1**	0	0	0	0	**0**	**1**
3:00 AM	0	1	0	0	**1**	0	0	1	1	**2**	**3**
4:00 AM	0	1	0	0	**1**	2	2	3	7	**14**	**15**
5:00 AM	2	0	3	0	**5**	4	7	8	3	**22**	**27**
6:00 AM	2	0	6	4	**12**	2	9	4	9	**24**	**36**
7:00 AM	6	8	23	15	**52**	11	21	25	13	**70**	**122**
8:00 AM	15	18	14	9	**56**	15	11	8	16	**50**	**106**
9:00 AM	9	8	9	17	**43**	7	14	8	14	**43**	**86**
10:00 AM	9	9	10	8	**36**	15	13	15	10	**53**	**89**
11:00 AM	8	7	15	8	**38**	9	9	8	12	**38**	**76**
12:00 PM	8	13	14	16	**51**	7	6	9	16	**38**	**89**
1:00 PM	11	12	8	17	**48**	10	17	7	11	**45**	**93**
2:00 PM	13	15	16	14	**58**	12	10	18	19	**59**	**117**
3:00 PM	14	14	25	15	**68**	26	17	15	8	**66**	**134**
4:00 PM	17	21	21	16	**75**	11	20	13	12	**56**	**131**
5:00 PM	20	15	14	27	**76**	10	19	11	8	**48**	**124**
6:00 PM	14	18	10	21	**63**	13	12	15	10	**50**	**113**
7:00 PM	11	16	12	17	**56**	18	7	11	3	**39**	**95**
8:00 PM	7	12	3	9	**31**	9	8	4	2	**23**	**54**
9:00 PM	10	9	2	8	**29**	7	3	3	4	**17**	**46**
10:00 PM	6	6	4	2	**18**	4	3	1	1	**9**	**27**
11:00 PM	5	2	2	0	**9**	1	2	2	0	**5**	**14**
Total	**51.9%**				**834**	**48.1%**				**773**	
	1607										

AM%	**35.5%**	**AM Peak**	**135**	**7:30 am to 8:30 am**	**AM P.H.F.**	**0.70**
PM%	**64.5%**	**PM Peak**	**144**	**2:45 pm to 3:45 pm**	**PM P.H.F.**	**0.90**



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

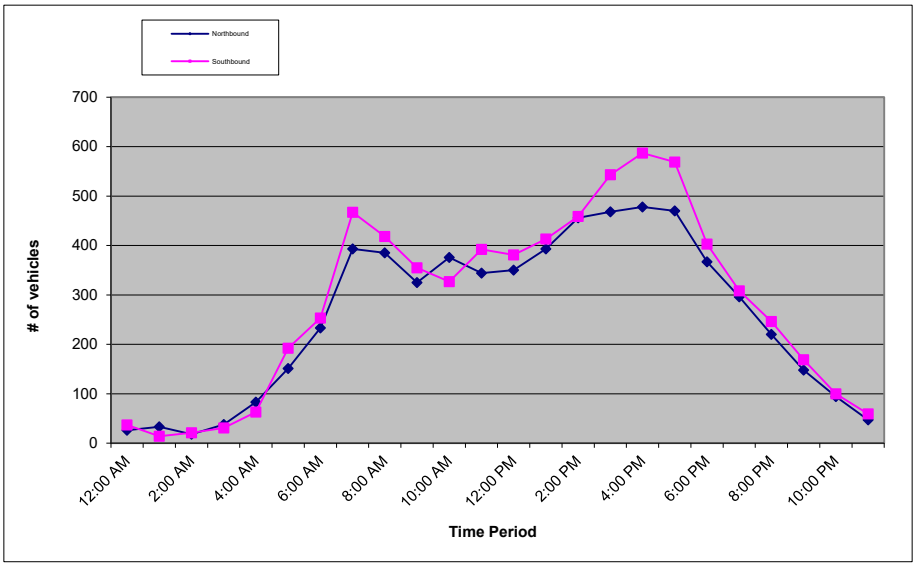
24 Hour Count Report

Prepared For: **JLB Traffic Engineering, Inc.**
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

STREET	Lovers Lane	**LATITUDE**	36.31236207
SEGMENT	North of Walnut Ave	**LONGITUDE**	-119.2607524
COLLECTION DATE	Tuesday, September 9, 2025	**WEATHER**	Clear
NUMBER OF LANES	4		

	Northbound					Southbound					Hourly
Hour	1st	2nd	3rd	4th	**Total**	1st	2nd	3rd	4th	**Total**	**Totals**
12:00 AM	10	5	6	5	**26**	15	11	8	3	**37**	**63**
1:00 AM	14	7	7	5	**33**	3	4	4	3	**14**	**47**
2:00 AM	4	7	3	4	**18**	5	2	8	6	**21**	**39**
3:00 AM	6	9	9	14	**38**	4	7	6	14	**31**	**69**
4:00 AM	12	14	25	32	**83**	4	16	13	30	**63**	**146**
5:00 AM	30	38	35	48	**151**	24	45	64	59	**192**	**343**
6:00 AM	39	40	69	85	**233**	47	57	62	87	**253**	**486**
7:00 AM	89	92	99	113	**393**	72	109	139	147	**467**	**860**
8:00 AM	117	96	74	98	**385**	115	120	95	88	**418**	**803**
9:00 AM	62	87	85	91	**325**	88	85	88	94	**355**	**680**
10:00 AM	85	87	112	92	**376**	75	95	71	86	**327**	**703**
11:00 AM	80	94	75	95	**344**	104	89	92	107	**392**	**736**
12:00 PM	93	80	95	82	**350**	104	105	92	80	**381**	**731**
1:00 PM	100	76	105	112	**393**	97	98	101	117	**413**	**806**
2:00 PM	102	110	121	123	**456**	109	109	126	115	**459**	**915**
3:00 PM	112	101	132	123	**468**	120	121	152	150	**543**	**1011**
4:00 PM	131	130	103	114	**478**	167	122	162	136	**587**	**1065**
5:00 PM	124	119	112	115	**470**	161	145	111	152	**569**	**1039**
6:00 PM	92	95	105	75	**367**	98	107	103	95	**403**	**770**
7:00 PM	69	79	56	92	**296**	81	87	80	60	**308**	**604**
8:00 PM	51	67	51	51	**220**	65	63	66	52	**246**	**466**
9:00 PM	45	41	30	32	**148**	49	51	41	28	**169**	**317**
10:00 PM	26	26	29	13	**94**	31	19	24	26	**100**	**194**
11:00 PM	18	7	16	6	**47**	23	14	12	10	**59**	**106**
Total	**47.6%**				**6192**	**52.4%**				**6807**	
	12999										

AM%	**38.3%**	**AM Peak**	**946**	**7:30 am to 8:30 am**	**AM P.H.F.**	**0.91**
PM%	**61.7%**	**PM Peak**	**1107**	**3:30 pm to 4:30 pm**	**PM P.H.F.**	**0.93**



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

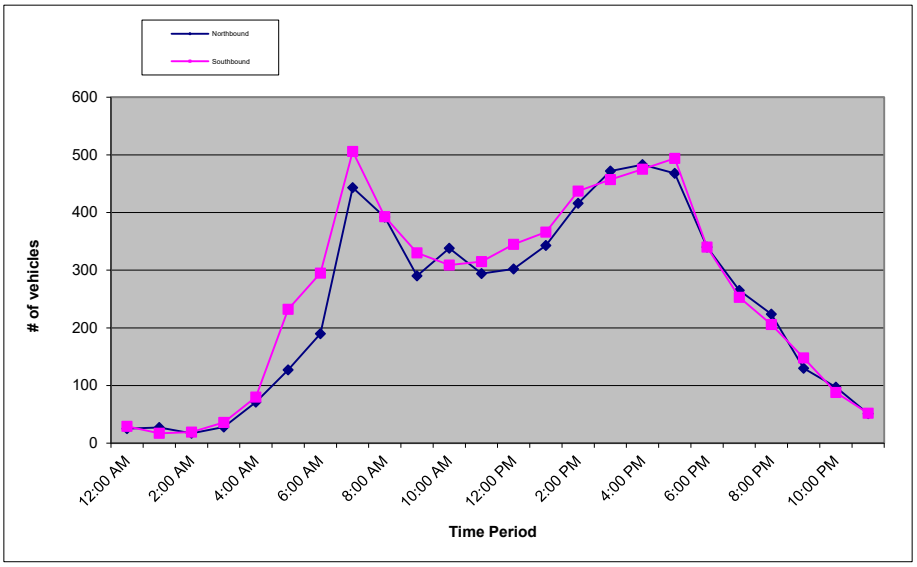
24 Hour Count Report

Prepared For: **JLB Traffic Engineering, Inc.**
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

STREET	Lovers Lane	**LATITUDE**	36.31208787
SEGMENT	South of Walnut Ave	**LONGITUDE**	-119.2607977
COLLECTION DATE	Tuesday, September 9, 2025	**WEATHER**	Clear
NUMBER OF LANES	4		

	Northbound					Southbound					Hourly
Hour	1st	2nd	3rd	4th	**Total**	1st	2nd	3rd	4th	**Total**	**Totals**
12:00 AM	6	6	7	6	**25**	11	12	4	2	**29**	**54**
1:00 AM	9	6	6	6	**27**	3	5	3	6	**17**	**44**
2:00 AM	2	7	3	5	**17**	2	4	8	5	**19**	**36**
3:00 AM	3	8	8	9	**28**	5	9	7	15	**36**	**64**
4:00 AM	11	10	21	29	**71**	8	22	19	31	**80**	**151**
5:00 AM	19	33	28	47	**127**	35	58	74	65	**232**	**359**
6:00 AM	30	32	61	67	**190**	62	67	74	92	**295**	**485**
7:00 AM	84	85	124	150	**443**	86	128	144	148	**506**	**949**
8:00 AM	129	104	71	88	**392**	114	116	85	78	**393**	**785**
9:00 AM	61	68	68	93	**290**	92	72	75	91	**330**	**620**
10:00 AM	72	81	100	85	**338**	70	83	80	76	**309**	**647**
11:00 AM	68	74	71	81	**294**	74	67	78	96	**315**	**609**
12:00 PM	87	62	84	69	**302**	86	88	97	74	**345**	**647**
1:00 PM	85	72	99	87	**343**	85	90	106	85	**366**	**709**
2:00 PM	85	110	113	108	**416**	106	98	127	106	**437**	**853**
3:00 PM	103	108	131	130	**472**	97	115	125	120	**457**	**929**
4:00 PM	117	134	118	114	**483**	132	109	121	113	**475**	**958**
5:00 PM	119	144	92	113	**468**	146	124	98	126	**494**	**962**
6:00 PM	78	84	99	79	**340**	79	93	79	89	**340**	**680**
7:00 PM	57	79	51	78	**265**	73	66	65	49	**253**	**518**
8:00 PM	53	69	48	54	**224**	48	54	58	46	**206**	**430**
9:00 PM	40	32	28	30	**130**	42	49	35	22	**148**	**278**
10:00 PM	26	29	28	14	**97**	27	21	19	21	**88**	**185**
11:00 PM	18	8	18	7	**51**	20	9	8	15	**52**	**103**
Total	**48.4%**				**5833**	**51.6%**				**6222**	
	12055										

AM%	**39.8%**	**AM Peak**	**1029**	**7:30 am to 8:30 am**	**AM P.H.F.**	**0.86**
PM%	**60.2%**	**PM Peak**	**999**	**4:30 pm to 5:30 pm**	**PM P.H.F.**	**0.93**



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

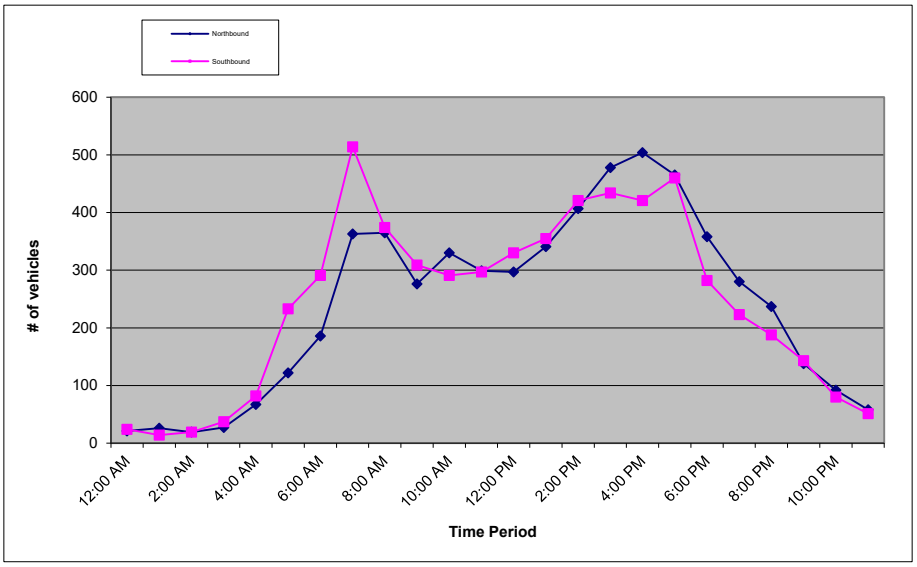
24 Hour Count Report

Prepared For: **JLB Traffic Engineering, Inc.**
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

STREET	Lovers Lane	**LATITUDE**	36.30623301
SEGMENT	between Cherry Avenue and K Avenue	**LONGITUDE**	-119.2606784
COLLECTION DATE	Tuesday, September 9, 2025	**WEATHER**	Clear
NUMBER OF LANES	4		

	Northbound					Southbound					Hourly
Hour	1st	2nd	3rd	4th	**Total**	1st	2nd	3rd	4th	**Total**	**Totals**
12:00 AM	5	6	5	5	**21**	10	8	4	2	**24**	**45**
1:00 AM	12	4	5	5	**26**	2	6	3	3	**14**	**40**
2:00 AM	2	8	3	6	**19**	2	4	6	7	**19**	**38**
3:00 AM	3	9	7	8	**27**	4	9	7	17	**37**	**64**
4:00 AM	13	8	18	28	**67**	8	22	21	31	**82**	**149**
5:00 AM	18	30	28	46	**122**	35	63	73	62	**233**	**355**
6:00 AM	30	32	57	67	**186**	57	62	83	89	**291**	**477**
7:00 AM	81	72	106	104	**363**	78	114	163	159	**514**	**877**
8:00 AM	127	86	65	87	**365**	112	106	85	71	**374**	**739**
9:00 AM	57	71	68	80	**276**	74	80	74	81	**309**	**585**
10:00 AM	71	84	99	76	**330**	64	70	79	78	**291**	**621**
11:00 AM	68	84	67	80	**299**	66	68	72	91	**297**	**596**
12:00 PM	78	71	79	69	**297**	80	85	88	77	**330**	**627**
1:00 PM	83	69	100	89	**341**	80	82	110	83	**355**	**696**
2:00 PM	88	100	118	101	**407**	95	92	124	110	**421**	**828**
3:00 PM	109	111	151	107	**478**	88	117	124	105	**434**	**912**
4:00 PM	121	137	116	130	**504**	107	109	101	104	**421**	**925**
5:00 PM	135	123	102	105	**465**	136	121	95	108	**460**	**925**
6:00 PM	85	88	103	82	**358**	69	77	65	71	**282**	**640**
7:00 PM	59	74	67	80	**280**	63	58	59	43	**223**	**503**
8:00 PM	61	77	49	50	**237**	50	42	50	46	**188**	**425**
9:00 PM	48	28	30	32	**138**	46	43	35	19	**143**	**281**
10:00 PM	27	25	27	13	**92**	24	21	17	18	**80**	**172**
11:00 PM	23	10	18	7	**58**	20	6	9	16	**51**	**109**
Total	**49.5%**				**5756**	**50.5%**				**5873**	
	11629										

AM%	**39.4%**	**AM Peak**	**963**	**7:30 am to 8:30 am**	**AM P.H.F.**	**0.89**
PM%	**60.6%**	**PM Peak**	**968**	**4:15 pm to 5:15 pm**	**PM P.H.F.**	**0.89**



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

24 Hour Count Report

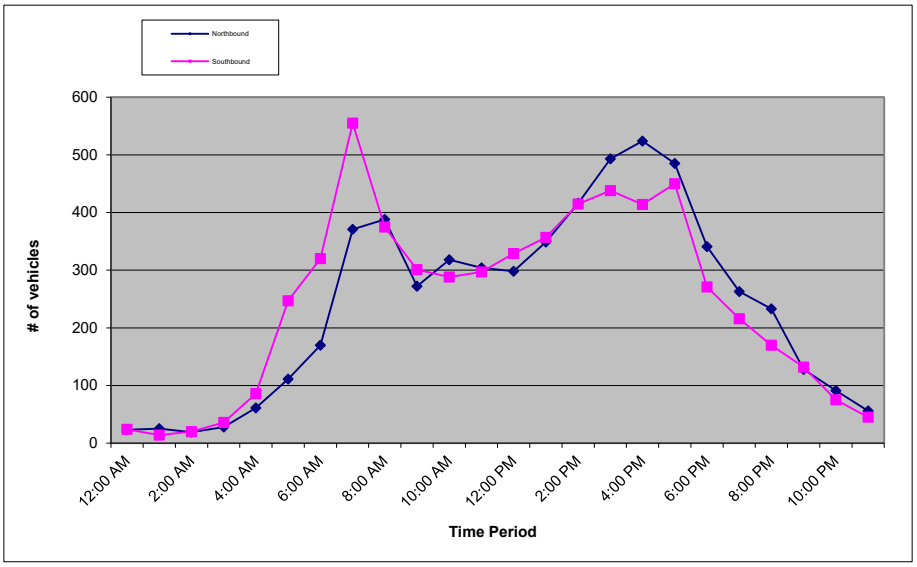
Prepared For: **JLB Traffic Engineering, Inc.**
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

STREET Lovers Lane
SEGMENT between K Avenue and Sunnyside Avenue
COLLECTION DATE Tuesday, September 9, 2025
NUMBER OF LANES 4

LATITUDE 36.30531052
LONGITUDE -119.2606671
WEATHER Clear

	Northbound					Southbound					Hourly
Hour	1st	2nd	3rd	4th	**Total**	1st	2nd	3rd	4th	**Total**	**Totals**
12:00 AM	7	6	5	5	**23**	11	6	4	3	**24**	**47**
1:00 AM	12	3	5	5	**25**	2	6	3	3	**14**	**39**
2:00 AM	2	8	3	6	**19**	2	5	5	8	**20**	**39**
3:00 AM	4	9	7	8	**28**	5	9	5	17	**36**	**64**
4:00 AM	12	7	16	26	**61**	10	22	23	31	**86**	**147**
5:00 AM	15	25	31	40	**111**	38	66	82	61	**247**	**358**
6:00 AM	26	28	52	64	**170**	65	67	89	99	**320**	**490**
7:00 AM	77	72	103	119	**371**	79	122	181	173	**555**	**926**
8:00 AM	141	86	69	92	**388**	119	97	89	70	**375**	**763**
9:00 AM	61	63	67	81	**272**	71	77	73	80	**301**	**573**
10:00 AM	66	81	97	74	**318**	65	70	76	77	**288**	**606**
11:00 AM	68	82	71	83	**304**	64	67	72	94	**297**	**601**
12:00 PM	77	73	81	67	**298**	81	88	91	69	**329**	**627**
1:00 PM	84	73	99	93	**349**	79	81	112	85	**357**	**706**
2:00 PM	89	101	120	106	**416**	100	89	120	106	**415**	**831**
3:00 PM	111	112	161	109	**493**	88	122	117	111	**438**	**931**
4:00 PM	126	140	121	137	**524**	107	106	101	100	**414**	**938**
5:00 PM	145	121	113	106	**485**	140	114	93	103	**450**	**935**
6:00 PM	83	87	96	75	**341**	69	72	63	67	**271**	**612**
7:00 PM	57	73	63	70	**263**	58	61	54	43	**216**	**479**
8:00 PM	55	77	51	50	**233**	45	42	44	39	**170**	**403**
9:00 PM	37	31	28	32	**128**	37	40	33	22	**132**	**260**
10:00 PM	31	23	27	10	**91**	21	21	14	19	**75**	**166**
11:00 PM	21	14	14	7	**56**	19	7	8	11	**45**	**101**
Total	**49.5%**				**5767**	**50.5%**				**5875**	
	11642										

AM%	**40.0%**	**AM Peak**	**1030**	**7:15 am to 8:15 am**	**AM P.H.F.**	**0.88**
PM%	**60.0%**	**PM Peak**	**990**	**4:15 pm to 5:15 pm**	**PM P.H.F.**	**0.87**



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

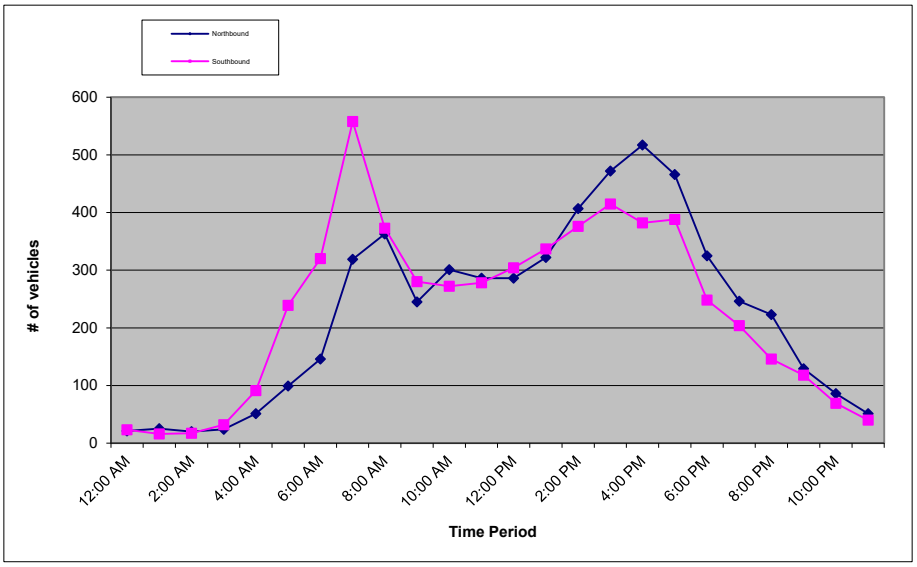
24 Hour Count Report

Prepared For: **JLB Traffic Engineering, Inc.**
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

STREET	Lovers Lane	**LATITUDE**	36.29873901
SEGMENT	between Sunnyside Avenue and Caldwell Avenue	**LONGITUDE**	-119.2608447
COLLECTION DATE	Tuesday, September 9, 2025	**WEATHER**	Clear
NUMBER OF LANES	4		

	Northbound					Southbound					Hourly
Hour	1st	2nd	3rd	4th	**Total**	1st	2nd	3rd	4th	**Total**	**Totals**
12:00 AM	7	5	5	4	**21**	12	6	2	3	**23**	**44**
1:00 AM	12	3	6	4	**25**	3	4	6	3	**16**	**41**
2:00 AM	2	9	3	6	**20**	3	5	5	4	**17**	**37**
3:00 AM	6	6	6	6	**24**	6	7	5	14	**32**	**56**
4:00 AM	10	6	13	22	**51**	13	22	25	31	**91**	**142**
5:00 AM	16	24	26	33	**99**	38	68	80	53	**239**	**338**
6:00 AM	23	23	43	57	**146**	63	70	88	99	**320**	**466**
7:00 AM	67	57	85	110	**319**	84	117	181	176	**558**	**877**
8:00 AM	133	77	70	83	**363**	111	103	86	73	**373**	**736**
9:00 AM	53	55	64	73	**245**	65	73	64	78	**280**	**525**
10:00 AM	64	74	91	72	**301**	56	63	77	76	**272**	**573**
11:00 AM	64	75	67	80	**286**	63	57	70	88	**278**	**564**
12:00 PM	74	64	86	62	**286**	75	82	83	64	**304**	**590**
1:00 PM	79	65	90	88	**322**	67	77	115	78	**337**	**659**
2:00 PM	81	99	118	109	**407**	84	89	103	100	**376**	**783**
3:00 PM	98	107	159	108	**472**	88	106	111	110	**415**	**887**
4:00 PM	129	143	120	125	**517**	103	94	95	90	**382**	**899**
5:00 PM	135	120	100	111	**466**	110	121	78	79	**388**	**854**
6:00 PM	75	84	92	74	**325**	71	65	54	58	**248**	**573**
7:00 PM	52	67	59	68	**246**	56	56	49	43	**204**	**450**
8:00 PM	60	67	48	48	**223**	35	30	49	32	**146**	**369**
9:00 PM	39	27	32	31	**129**	36	35	29	18	**118**	**247**
10:00 PM	27	28	22	9	**86**	18	19	15	17	**69**	**155**
11:00 PM	19	14	12	6	**51**	14	7	9	10	**40**	**91**
Total	**49.6%**				**5430**	**50.4%**				**5526**	
	10956										

AM%	**40.2%**	**AM Peak**	**976**	**7:30 am to 8:30 am**	**AM P.H.F.**	**0.85**
PM%	**59.8%**	**PM Peak**	**957**	**3:30 pm to 4:30 pm**	**PM P.H.F.**	**0.89**



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

24 Hour Count Report

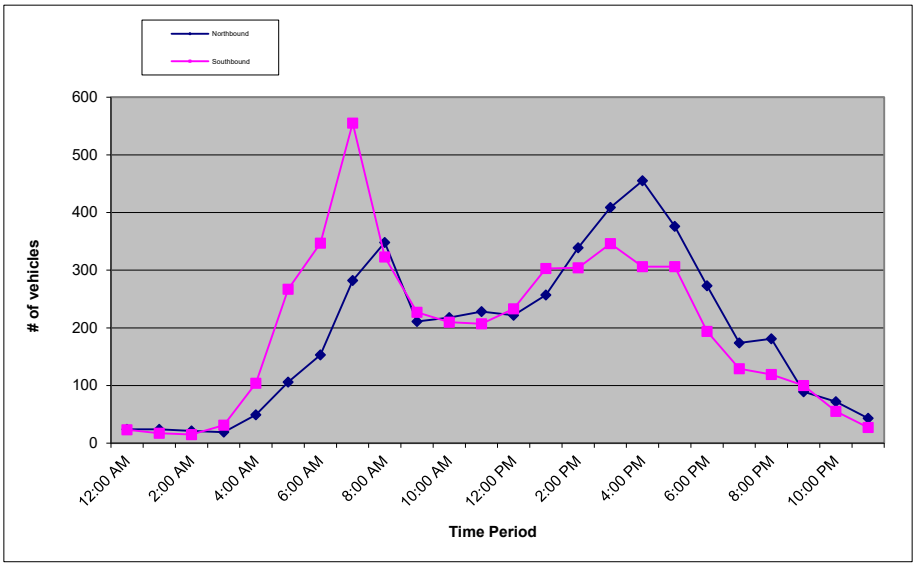
Prepared For: **JLB Traffic Engineering, Inc.**
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

STREET Lovers Lane
SEGMENT south of Caldwell Avenue
COLLECTION DATE Tuesday, September 9, 2025
NUMBER OF LANES 4

LATITUDE 36.29790779
LONGITUDE -119.2610737
WEATHER Clear

	Northbound					Southbound					Hourly
Hour	1st	2nd	3rd	4th	**Total**	1st	2nd	3rd	4th	**Total**	**Totals**
12:00 AM	11	5	5	3	**24**	12	3	3	5	**23**	**47**
1:00 AM	10	4	7	3	**24**	3	4	7	3	**17**	**41**
2:00 AM	1	10	3	7	**21**	4	4	5	2	**15**	**36**
3:00 AM	5	4	4	6	**19**	5	8	7	11	**31**	**50**
4:00 AM	11	7	8	23	**49**	13	25	32	34	**104**	**153**
5:00 AM	18	23	27	38	**106**	42	71	92	62	**267**	**373**
6:00 AM	30	33	43	47	**153**	76	74	97	100	**347**	**500**
7:00 AM	61	45	88	88	**282**	80	130	185	160	**555**	**837**
8:00 AM	122	76	74	76	**348**	101	89	74	59	**323**	**671**
9:00 AM	43	46	52	70	**211**	52	58	58	59	**227**	**438**
10:00 AM	43	60	61	54	**218**	39	51	64	56	**210**	**428**
11:00 AM	50	63	51	64	**228**	45	52	48	62	**207**	**435**
12:00 PM	56	44	76	46	**222**	52	56	71	54	**233**	**455**
1:00 PM	59	49	70	79	**257**	64	71	96	72	**303**	**560**
2:00 PM	55	95	90	99	**339**	67	69	84	84	**304**	**643**
3:00 PM	83	95	132	99	**409**	79	85	97	85	**346**	**755**
4:00 PM	109	131	106	109	**455**	74	78	70	84	**306**	**761**
5:00 PM	104	104	83	85	**376**	92	90	67	57	**306**	**682**
6:00 PM	63	74	79	57	**273**	54	57	43	40	**194**	**467**
7:00 PM	51	38	41	44	**174**	37	34	33	25	**129**	**303**
8:00 PM	44	55	39	43	**181**	29	32	40	18	**119**	**300**
9:00 PM	23	24	16	26	**89**	26	29	25	20	**100**	**189**
10:00 PM	25	22	19	6	**72**	13	14	12	16	**55**	**127**
11:00 PM	17	12	8	6	**43**	10	4	5	8	**27**	**70**
Total	**49.1%**				**4573**	**50.9%**				**4748**	
	9321										

AM%	**43.0%**	**AM Peak**	**919**	**7:15 am to 8:15 am**	**AM P.H.F.**	**0.84**
PM%	**57.0%**	**PM Peak**	**805**	**3:30 pm to 4:30 pm**	**PM P.H.F.**	**0.88**



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

24 Hour Count Report

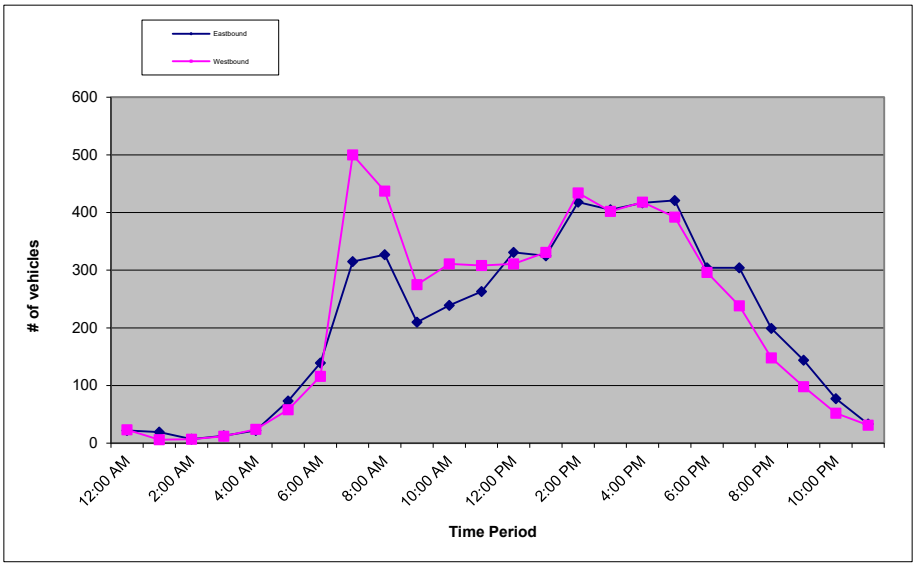
Prepared For: **JLB Traffic Engineering, Inc.**
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

STREET Walnut Ave
SEGMENT West of Lovers Lane
COLLECTION DATE Tuesday, September 9, 2025
NUMBER OF LANES 2

LATITUDE 36.31227062
LONGITUDE -119.2613053
WEATHER Clear

	Eastbound					Westbound					Hourly
Hour	1st	2nd	3rd	4th	**Total**	1st	2nd	3rd	4th	**Total**	**Totals**
12:00 AM	13	3	3	3	**22**	6	3	9	5	**23**	**45**
1:00 AM	10	3	1	5	**19**	2	0	2	2	**6**	**25**
2:00 AM	1	3	2	1	**7**	2	2	0	3	**7**	**14**
3:00 AM	2	4	3	4	**13**	0	4	6	2	**12**	**25**
4:00 AM	6	7	5	4	**22**	4	4	7	9	**24**	**46**
5:00 AM	12	13	22	26	**73**	10	12	16	20	**58**	**131**
6:00 AM	25	27	41	46	**139**	18	19	33	46	**116**	**255**
7:00 AM	47	58	97	113	**315**	70	103	142	185	**500**	**815**
8:00 AM	113	85	75	54	**327**	150	99	101	87	**437**	**764**
9:00 AM	45	67	46	52	**210**	61	69	70	75	**275**	**485**
10:00 AM	64	55	62	58	**239**	88	74	74	75	**311**	**550**
11:00 AM	64	71	47	81	**263**	83	75	83	67	**308**	**571**
12:00 PM	80	99	77	75	**331**	76	81	77	77	**311**	**642**
1:00 PM	92	74	75	84	**325**	59	82	94	96	**331**	**656**
2:00 PM	82	100	131	105	**418**	85	142	94	113	**434**	**852**
3:00 PM	96	102	93	114	**405**	88	99	109	106	**402**	**807**
4:00 PM	110	113	75	119	**417**	118	99	107	94	**418**	**835**
5:00 PM	93	105	119	104	**421**	95	118	87	92	**392**	**813**
6:00 PM	75	88	76	65	**304**	82	82	68	64	**296**	**600**
7:00 PM	74	87	66	77	**304**	63	63	53	59	**238**	**542**
8:00 PM	49	57	50	43	**199**	41	35	28	44	**148**	**347**
9:00 PM	49	40	26	29	**144**	31	21	25	21	**98**	**242**
10:00 PM	22	17	13	25	**77**	16	16	11	9	**52**	**129**
11:00 PM	17	4	7	5	**33**	10	10	5	6	**31**	**64**
Total	**49.0%**				**5027**	**51.0%**				**5228**	
	10255										

AM%	**36.3%**	**AM Peak**	**984**	**7:30 am to 8:30 am**	**AM P.H.F.**	**0.83**
PM%	**63.7%**	**PM Peak**	**869**	**2:15 pm to 3:15 pm**	**PM P.H.F.**	**0.90**



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

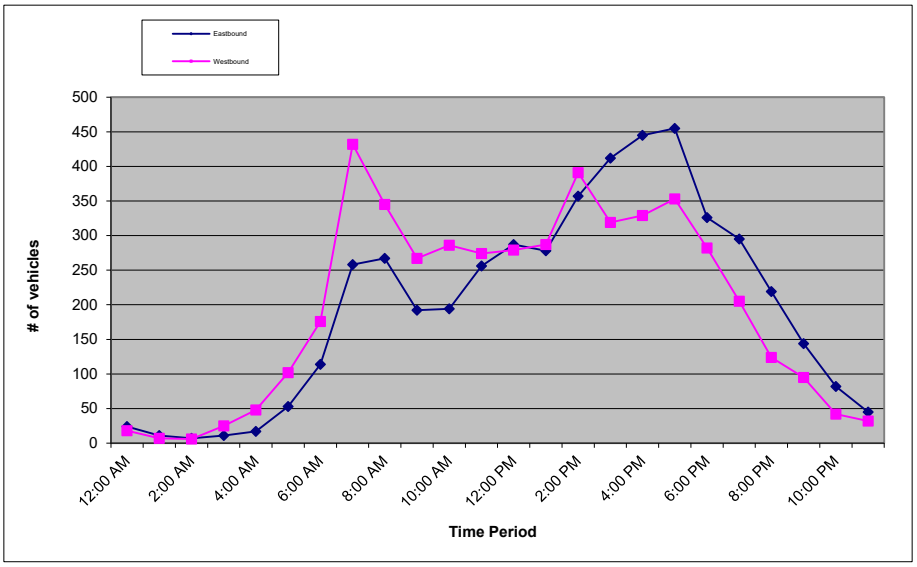
24 Hour Count Report

Prepared For: **JLB Traffic Engineering, Inc.**
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

STREET	Walnut Ave	**LATITUDE**	36.31227062
SEGMENT	East of Lovers Lane	**LONGITUDE**	-119.2613053
COLLECTION DATE	Tuesday, September 9, 2025	**WEATHER**	Clear
NUMBER OF LANES	2		

	Eastbound					Westbound					Hourly
Hour	1st	2nd	3rd	4th	**Total**	1st	2nd	3rd	4th	**Total**	**Totals**
12:00 AM	12	3	5	4	**24**	5	3	6	4	**18**	**42**
1:00 AM	5	3	1	2	**11**	2	2	2	1	**7**	**18**
2:00 AM	2	1	3	1	**7**	2	2	1	1	**6**	**13**
3:00 AM	3	3	2	3	**11**	5	6	7	7	**25**	**36**
4:00 AM	3	4	2	8	**17**	6	11	14	17	**48**	**65**
5:00 AM	7	6	16	24	**53**	27	23	27	25	**102**	**155**
6:00 AM	17	22	33	42	**114**	34	32	45	65	**176**	**290**
7:00 AM	34	39	103	82	**258**	76	110	128	118	**432**	**690**
8:00 AM	82	69	64	52	**267**	106	71	83	85	**345**	**612**
9:00 AM	45	61	42	44	**192**	66	69	70	62	**267**	**459**
10:00 AM	50	48	46	50	**194**	82	61	79	64	**286**	**480**
11:00 AM	65	67	53	71	**256**	66	69	79	60	**274**	**530**
12:00 PM	72	93	58	64	**287**	56	76	74	73	**279**	**566**
1:00 PM	83	64	60	71	**278**	53	68	90	76	**287**	**565**
2:00 PM	74	84	104	95	**357**	91	115	76	109	**391**	**748**
3:00 PM	89	102	100	121	**412**	67	86	90	76	**319**	**731**
4:00 PM	104	107	103	131	**445**	91	76	79	83	**329**	**774**
5:00 PM	104	127	106	118	**455**	96	94	81	82	**353**	**808**
6:00 PM	82	87	82	75	**326**	84	78	56	64	**282**	**608**
7:00 PM	61	88	73	73	**295**	54	43	50	58	**205**	**500**
8:00 PM	62	68	53	36	**219**	35	35	26	28	**124**	**343**
9:00 PM	49	35	32	28	**144**	29	23	27	16	**95**	**239**
10:00 PM	21	18	14	29	**82**	11	16	8	7	**42**	**124**
11:00 PM	19	8	14	4	**45**	9	8	6	9	**32**	**77**
Total	**50.1%**				**4749**	**49.9%**				**4724**	
	9473										

AM%	**35.8%**	**AM Peak**	**768**	**7:15 am to 8:15 am**	**AM P.H.F.**	**0.83**
PM%	**64.2%**	**PM Peak**	**822**	**4:45 pm to 5:45 pm**	**PM P.H.F.**	**0.93**



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

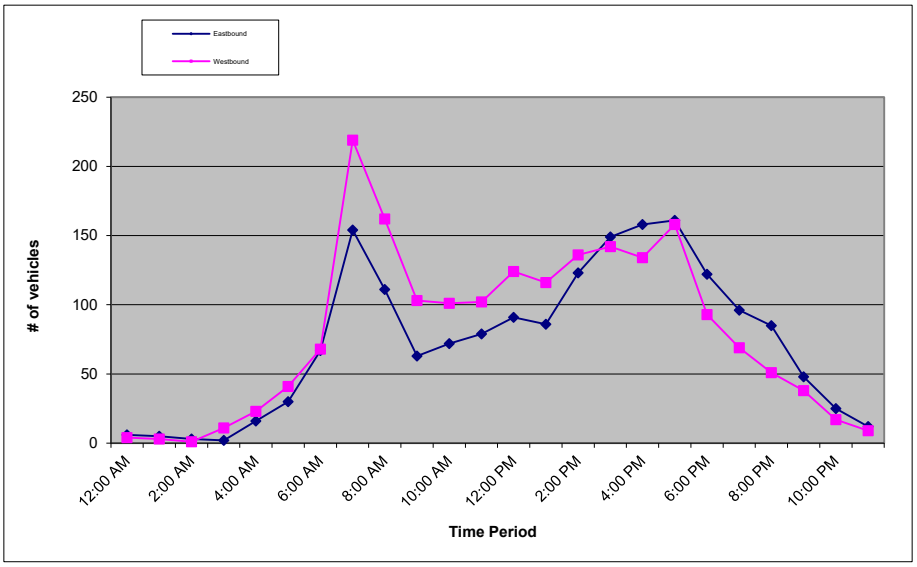
24 Hour Count Report

Prepared For: **JLB Traffic Engineering, Inc.**
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

STREET	K Ave	**LATITUDE**	36.30601893
SEGMENT	west of Pinkham Street	**LONGITUDE**	-119.2695336
COLLECTION DATE	Tuesday, September 9, 2025	**WEATHER**	Clear
NUMBER OF LANES	2		

	Eastbound					Westbound					Hourly
Hour	1st	2nd	3rd	4th	**Total**	1st	2nd	3rd	4th	**Total**	**Totals**
12:00 AM	2	1	1	2	**6**	2	2	0	0	**4**	**10**
1:00 AM	2	2	1	0	**5**	1	1	1	0	**3**	**8**
2:00 AM	0	2	0	1	**3**	0	1	0	0	**1**	**4**
3:00 AM	0	1	0	1	**2**	1	3	2	5	**11**	**13**
4:00 AM	3	3	7	3	**16**	2	3	6	12	**23**	**39**
5:00 AM	7	6	10	7	**30**	7	7	14	13	**41**	**71**
6:00 AM	17	12	16	22	**67**	12	10	19	27	**68**	**135**
7:00 AM	15	37	37	65	**154**	35	44	62	78	**219**	**373**
8:00 AM	38	31	21	21	**111**	69	35	25	33	**162**	**273**
9:00 AM	13	14	20	16	**63**	23	27	30	23	**103**	**166**
10:00 AM	15	27	18	12	**72**	21	17	28	35	**101**	**173**
11:00 AM	17	17	24	21	**79**	26	27	18	31	**102**	**181**
12:00 PM	17	27	22	25	**91**	22	33	37	32	**124**	**215**
1:00 PM	22	24	20	20	**86**	32	31	23	30	**116**	**202**
2:00 PM	25	46	23	29	**123**	22	38	46	30	**136**	**259**
3:00 PM	34	34	31	50	**149**	34	42	36	30	**142**	**291**
4:00 PM	39	41	34	44	**158**	34	37	33	30	**134**	**292**
5:00 PM	47	38	36	40	**161**	37	39	46	36	**158**	**319**
6:00 PM	38	28	24	32	**122**	30	23	23	17	**93**	**215**
7:00 PM	22	26	25	23	**96**	16	19	21	13	**69**	**165**
8:00 PM	31	20	17	17	**85**	13	13	13	12	**51**	**136**
9:00 PM	15	8	15	10	**48**	14	11	8	5	**38**	**86**
10:00 PM	6	8	5	6	**25**	3	6	4	4	**17**	**42**
11:00 PM	4	5	2	1	**12**	1	3	1	4	**9**	**21**
Total	**47.8%**				**1764**	**52.2%**				**1925**	
	3689										

AM%	**39.2%**	**AM Peak**	**430**	**7:15 am to 8:15 am**	**AM P.H.F.**	**0.75**
PM%	**60.8%**	**PM Peak**	**319**	**5:00 pm to 6:00 pm**	**PM P.H.F.**	**0.95**



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

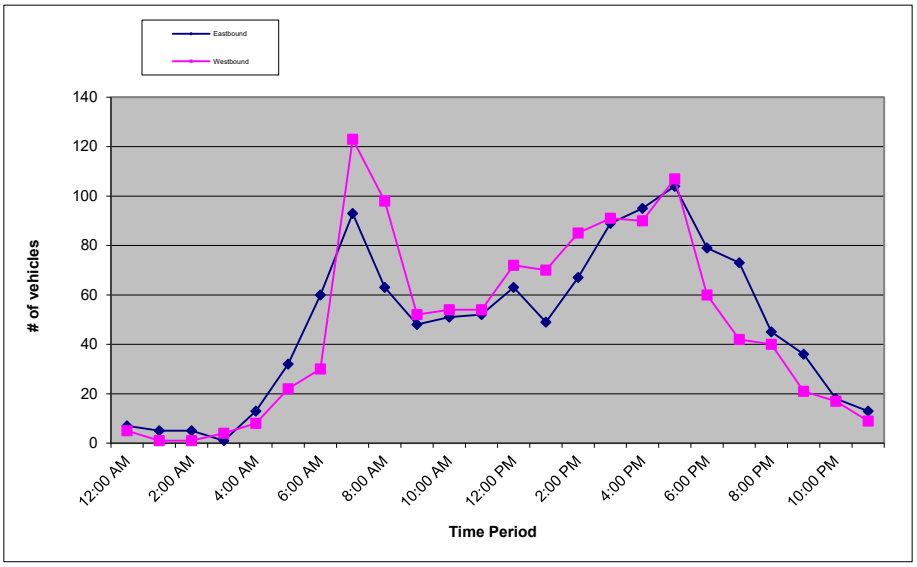
24 Hour Count Report

Prepared For: **JLB Traffic Engineering, Inc.**
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

STREET	K Ave	**LATITUDE**	36.30601893
SEGMENT	between Pinkham Street and Lovers Lane	**LONGITUDE**	-119.2695336
COLLECTION DATE	Tuesday, September 9, 2025	**WEATHER**	Clear
NUMBER OF LANES	2		

	Eastbound					Westbound					Hourly
Hour	1st	2nd	3rd	4th	**Total**	1st	2nd	3rd	4th	**Total**	**Totals**
12:00 AM	1	2	3	1	**7**	2	3	0	0	**5**	**12**
1:00 AM	1	3	1	0	**5**	1	0	0	0	**1**	**6**
2:00 AM	0	2	0	3	**5**	0	1	0	0	**1**	**6**
3:00 AM	0	1	0	0	**1**	0	2	1	1	**4**	**5**
4:00 AM	3	2	4	4	**13**	2	1	0	5	**8**	**21**
5:00 AM	8	5	12	7	**32**	5	1	11	5	**22**	**54**
6:00 AM	14	11	15	20	**60**	6	3	12	9	**30**	**90**
7:00 AM	15	23	32	23	**93**	22	29	24	48	**123**	**216**
8:00 AM	20	15	13	15	**63**	40	21	12	25	**98**	**161**
9:00 AM	13	11	14	10	**48**	14	13	12	13	**52**	**100**
10:00 AM	15	14	9	13	**51**	12	13	13	16	**54**	**105**
11:00 AM	10	9	18	15	**52**	11	15	13	15	**54**	**106**
12:00 PM	14	25	12	12	**63**	16	20	16	20	**72**	**135**
1:00 PM	11	12	12	14	**49**	17	19	12	22	**70**	**119**
2:00 PM	14	18	25	10	**67**	16	27	24	18	**85**	**152**
3:00 PM	21	22	17	29	**89**	24	19	27	21	**91**	**180**
4:00 PM	22	20	25	28	**95**	25	21	21	23	**90**	**185**
5:00 PM	39	26	18	21	**104**	31	27	26	23	**107**	**211**
6:00 PM	24	21	20	14	**79**	17	16	16	11	**60**	**139**
7:00 PM	15	19	17	22	**73**	9	17	11	5	**42**	**115**
8:00 PM	17	13	8	7	**45**	10	9	12	9	**40**	**85**
9:00 PM	8	8	12	8	**36**	7	5	6	3	**21**	**57**
10:00 PM	0	7	3	8	**18**	5	4	5	3	**17**	**35**
11:00 PM	3	4	4	2	**13**	1	5	1	2	**9**	**22**
Total	**50.1%**				**1161**	**49.9%**				**1156**	
	2317										

AM%	**38.1%**	**AM Peak**	**239**	**7:15 am to 8:15 am**	**AM P.H.F.**	**0.84**
PM%	**61.9%**	**PM Peak**	**220**	**4:30 pm to 5:30 pm**	**PM P.H.F.**	**0.79**



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

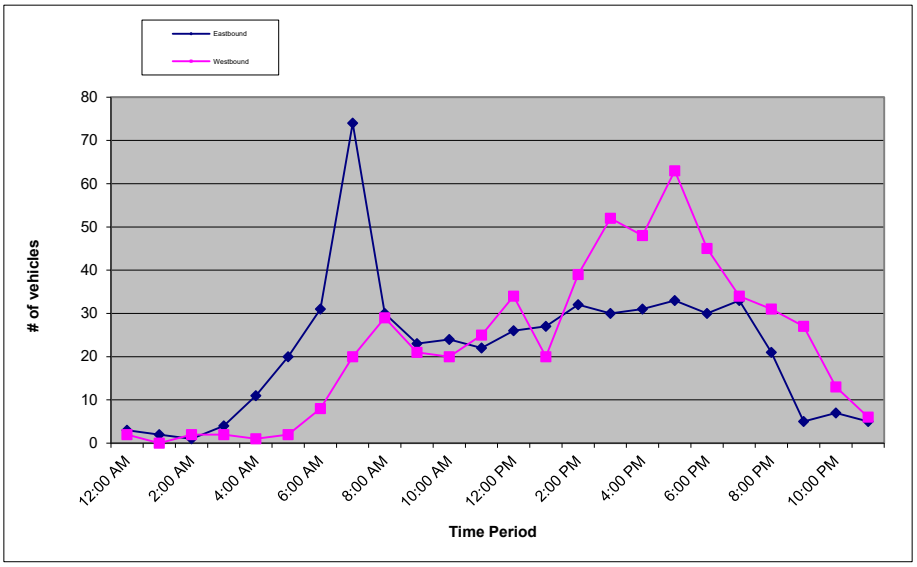
24 Hour Count Report

Prepared For: **JLB Traffic Engineering, Inc.**
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

STREET	Sunnyside Ave	**LATITUDE**	36.30247982
SEGMENT	west of Lovers Lane	**LONGITUDE**	-119.2613886
COLLECTION DATE	Tuesday, September 9, 2025	**WEATHER**	Clear
NUMBER OF LANES	2		

	Eastbound					Westbound					Hourly
Hour	1st	2nd	3rd	4th	**Total**	1st	2nd	3rd	4th	**Total**	**Totals**
12:00 AM	0	1	0	2	**3**	0	0	2	0	**2**	**5**
1:00 AM	0	0	1	1	**2**	0	0	0	0	**0**	**2**
2:00 AM	1	0	0	0	**1**	0	1	0	1	**2**	**3**
3:00 AM	1	1	1	1	**4**	0	1	0	1	**2**	**6**
4:00 AM	1	3	2	5	**11**	0	1	0	0	**1**	**12**
5:00 AM	1	5	8	6	**20**	0	1	0	1	**2**	**22**
6:00 AM	2	5	13	11	**31**	1	2	3	2	**8**	**39**
7:00 AM	14	14	22	24	**74**	4	8	4	4	**20**	**94**
8:00 AM	12	8	4	6	**30**	12	11	4	2	**29**	**59**
9:00 AM	4	10	5	4	**23**	6	3	2	10	**21**	**44**
10:00 AM	6	5	8	5	**24**	6	5	5	4	**20**	**44**
11:00 AM	5	3	7	7	**22**	1	7	9	8	**25**	**47**
12:00 PM	8	6	7	5	**26**	8	4	8	14	**34**	**60**
1:00 PM	7	5	5	10	**27**	4	3	5	8	**20**	**47**
2:00 PM	8	5	7	12	**32**	9	5	19	6	**39**	**71**
3:00 PM	9	6	7	8	**30**	12	10	11	19	**52**	**82**
4:00 PM	8	5	7	11	**31**	5	16	15	12	**48**	**79**
5:00 PM	12	9	6	6	**33**	14	15	16	18	**63**	**96**
6:00 PM	9	7	5	9	**30**	11	10	9	15	**45**	**75**
7:00 PM	7	8	10	8	**33**	8	8	11	7	**34**	**67**
8:00 PM	3	8	4	6	**21**	13	6	5	7	**31**	**52**
9:00 PM	2	3	0	0	**5**	11	5	7	4	**27**	**32**
10:00 PM	2	1	2	2	**7**	4	2	2	5	**13**	**20**
11:00 PM	2	0	1	2	**5**	3	1	1	1	**6**	**11**
Total	**49.1%**				**525**	**50.9%**				**544**	
	1069										

AM%	**35.3%**	**AM Peak**	**100**	**7:15 am to 8:15 am**	**AM P.H.F.**	**0.89**
PM%	**64.7%**	**PM Peak**	**96**	**5:00 pm to 6:00 pm**	**PM P.H.F.**	**0.92**



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

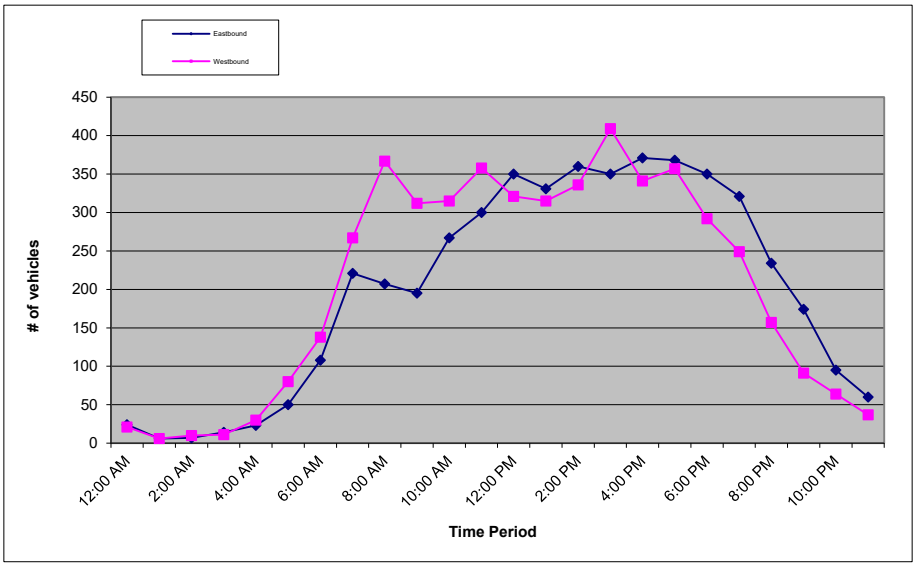
24 Hour Count Report

Prepared For: **JLB Traffic Engineering, Inc.**
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

STREET	Caldwell Ave	**LATITUDE**	36.29803933
SEGMENT	west of Pinkham Street	**LONGITUDE**	-119.2692412
COLLECTION DATE	Tuesday, September 9, 2025	**WEATHER**	Clear
NUMBER OF LANES	2		

	Eastbound					Westbound					Hourly
Hour	1st	2nd	3rd	4th	**Total**	1st	2nd	3rd	4th	**Total**	**Totals**
12:00 AM	9	2	6	7	**24**	9	11	0	1	**21**	**45**
1:00 AM	1	1	2	2	**6**	3	2	1	0	**6**	**12**
2:00 AM	2	3	0	2	**7**	0	2	4	4	**10**	**17**
3:00 AM	2	6	4	2	**14**	0	3	2	6	**11**	**25**
4:00 AM	0	5	12	6	**23**	6	10	6	8	**30**	**53**
5:00 AM	6	14	18	12	**50**	15	15	21	29	**80**	**130**
6:00 AM	16	35	17	40	**108**	22	30	43	43	**138**	**246**
7:00 AM	27	57	69	68	**221**	41	54	78	94	**267**	**488**
8:00 AM	52	52	43	60	**207**	122	93	77	75	**367**	**574**
9:00 AM	41	44	56	54	**195**	66	76	71	99	**312**	**507**
10:00 AM	70	61	70	66	**267**	82	82	71	80	**315**	**582**
11:00 AM	70	78	70	82	**300**	95	84	76	103	**358**	**658**
12:00 PM	81	88	82	99	**350**	86	73	85	77	**321**	**671**
1:00 PM	84	73	77	97	**331**	74	74	93	74	**315**	**646**
2:00 PM	88	88	99	85	**360**	70	82	100	84	**336**	**696**
3:00 PM	98	83	95	74	**350**	99	84	128	98	**409**	**759**
4:00 PM	93	90	96	92	**371**	81	103	80	77	**341**	**712**
5:00 PM	93	90	90	95	**368**	96	100	87	74	**357**	**725**
6:00 PM	91	87	85	87	**350**	79	70	71	72	**292**	**642**
7:00 PM	83	84	76	78	**321**	84	60	58	47	**249**	**570**
8:00 PM	69	64	53	48	**234**	45	35	43	34	**157**	**391**
9:00 PM	43	41	42	48	**174**	29	29	17	16	**91**	**265**
10:00 PM	23	28	27	17	**95**	19	19	11	15	**64**	**159**
11:00 PM	23	17	8	12	**60**	16	4	10	7	**37**	**97**
Total	**49.5%**				**4786**	**50.5%**				**4884**	
	9670										

AM%	**34.5%**	**AM Peak**	**658**	**11:00 am to 12:00 pm**	**AM P.H.F.**	**0.89**
PM%	**65.5%**	**PM Peak**	**762**	**3:30 pm to 4:30 pm**	**PM P.H.F.**	**0.85**



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

24 Hour Count Report

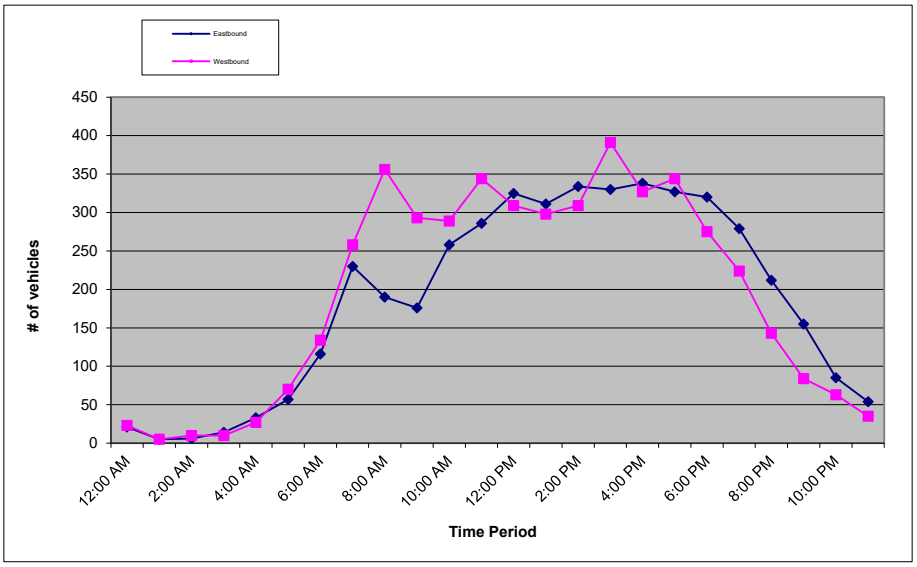
Prepared For: **JLB Traffic Engineering, Inc.**
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

STREET Caldwell Ave
SEGMENT between Pinkham Street and Lovers Lane
COLLECTION DATE Tuesday, September 9, 2025
NUMBER OF LANES 2

LATITUDE 36.29805108
LONGITUDE -119.2686296
WEATHER Clear

	Eastbound					Westbound					Hourly
Hour	1st	2nd	3rd	4th	**Total**	1st	2nd	3rd	4th	**Total**	**Totals**
12:00 AM	9	2	4	6	**21**	11	10	0	2	**23**	**44**
1:00 AM	0	1	2	2	**5**	2	2	1	0	**5**	**10**
2:00 AM	2	3	0	1	**6**	0	2	4	4	**10**	**16**
3:00 AM	2	5	4	3	**14**	0	3	1	6	**10**	**24**
4:00 AM	1	6	15	11	**33**	5	10	6	6	**27**	**60**
5:00 AM	6	17	22	12	**57**	13	11	20	26	**70**	**127**
6:00 AM	18	39	14	45	**116**	24	25	42	43	**134**	**250**
7:00 AM	32	60	72	66	**230**	41	44	79	94	**258**	**488**
8:00 AM	51	46	37	56	**190**	121	94	77	64	**356**	**546**
9:00 AM	37	38	53	48	**176**	64	64	69	96	**293**	**469**
10:00 AM	67	57	66	68	**258**	73	74	62	80	**289**	**547**
11:00 AM	67	76	61	82	**286**	91	80	74	99	**344**	**630**
12:00 PM	79	79	77	90	**325**	85	71	85	68	**309**	**634**
1:00 PM	77	70	73	91	**311**	68	66	90	74	**298**	**609**
2:00 PM	81	79	90	84	**334**	64	78	89	78	**309**	**643**
3:00 PM	96	85	83	66	**330**	85	83	126	97	**391**	**721**
4:00 PM	81	81	91	85	**338**	75	95	83	74	**327**	**665**
5:00 PM	83	84	83	77	**327**	96	90	83	75	**344**	**671**
6:00 PM	85	75	82	78	**320**	74	64	63	74	**275**	**595**
7:00 PM	72	71	69	67	**279**	66	56	52	50	**224**	**503**
8:00 PM	65	55	50	42	**212**	39	30	39	35	**143**	**355**
9:00 PM	39	34	42	40	**155**	28	28	16	12	**84**	**239**
10:00 PM	20	25	25	15	**85**	18	19	12	14	**63**	**148**
11:00 PM	19	16	7	12	**54**	16	3	9	7	**35**	**89**
Total	**49.1%**				**4462**	**50.9%**				**4621**	
	9083										

AM%	**35.4%**	**AM Peak**	**630**	**11:00 am to 12:00 pm**	**AM P.H.F.**	**0.87**
PM%	**64.6%**	**PM Peak**	**721**	**3:00 pm to 4:00 pm**	**PM P.H.F.**	**0.86**



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

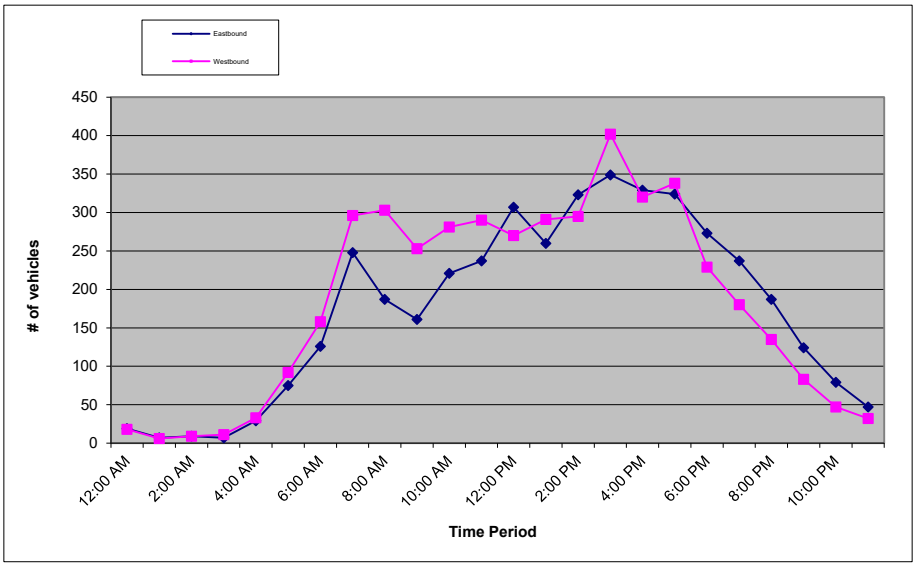
24 Hour Count Report

Prepared For: **JLB Traffic Engineering, Inc.**
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

STREET	Caldwell Ave	**LATITUDE**	36.29833613
SEGMENT	east of Lovers Lane	**LONGITUDE**	-119.2602976
COLLECTION DATE	Tuesday, September 9, 2025	**WEATHER**	Clear
NUMBER OF LANES	4		

	Eastbound					Westbound					Hourly
Hour	1st	2nd	3rd	4th	**Total**	1st	2nd	3rd	4th	**Total**	**Totals**
12:00 AM	6	6	3	4	**19**	4	11	1	2	**18**	**37**
1:00 AM	1	1	2	3	**7**	3	2	0	1	**6**	**13**
2:00 AM	1	3	2	3	**9**	1	3	3	2	**9**	**18**
3:00 AM	1	2	3	1	**7**	2	2	4	3	**11**	**18**
4:00 AM	4	5	6	14	**29**	5	10	8	10	**33**	**62**
5:00 AM	16	18	15	26	**75**	11	15	27	39	**92**	**167**
6:00 AM	31	37	16	42	**126**	37	19	48	54	**158**	**284**
7:00 AM	31	51	87	79	**248**	39	47	93	117	**296**	**544**
8:00 AM	65	51	33	38	**187**	115	89	50	49	**303**	**490**
9:00 AM	47	31	37	46	**161**	60	50	65	78	**253**	**414**
10:00 AM	57	49	53	62	**221**	75	69	59	78	**281**	**502**
11:00 AM	54	60	52	71	**237**	71	73	76	70	**290**	**527**
12:00 PM	80	76	72	79	**307**	78	67	63	62	**270**	**577**
1:00 PM	64	52	64	80	**260**	74	61	92	64	**291**	**551**
2:00 PM	72	83	92	76	**323**	59	67	101	68	**295**	**618**
3:00 PM	91	94	92	72	**349**	83	87	148	84	**402**	**751**
4:00 PM	76	83	91	79	**329**	75	85	76	84	**320**	**649**
5:00 PM	81	89	79	75	**324**	104	75	81	78	**338**	**662**
6:00 PM	74	73	56	70	**273**	63	58	49	59	**229**	**502**
7:00 PM	72	54	58	53	**237**	49	43	42	46	**180**	**417**
8:00 PM	53	52	47	35	**187**	42	38	32	23	**135**	**322**
9:00 PM	24	30	32	38	**124**	20	22	21	20	**83**	**207**
10:00 PM	25	24	20	10	**79**	15	12	6	14	**47**	**126**
11:00 PM	15	17	5	10	**47**	10	4	10	8	**32**	**79**
Total	**48.8%**				**4165**	**51.2%**				**4372**	
	8537										

AM%	**36.0%**	**AM Peak**	**696**	**7:30 am to 8:30 am**	**AM P.H.F.**	**0.89**
PM%	**64.0%**	**PM Peak**	**751**	**3:00 pm to 4:00 pm**	**PM P.H.F.**	**0.78**



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

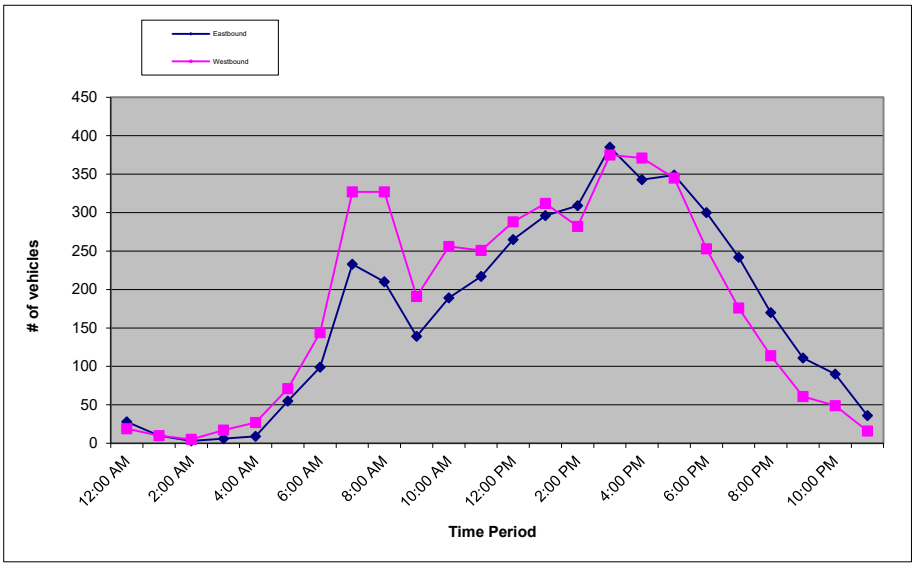
24 Hour Count Report

Prepared For: **JLB Traffic Engineering, Inc.**
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

STREET	Ave 280	**LATITUDE**	36.29816135
SEGMENT	West of Rd 148	**LONGITUDE**	-119.2433271
COLLECTION DATE	Tuesday, October 28, 2025	**WEATHER**	Clear
NUMBER OF LANES	2		

	Eastbound					Westbound					Hourly
Hour	1st	2nd	3rd	4th	**Total**	1st	2nd	3rd	4th	**Total**	**Totals**
12:00 AM	5	11	6	6	**28**	4	4	7	4	**19**	**47**
1:00 AM	3	1	4	2	**10**	4	1	3	2	**10**	**20**
2:00 AM	0	1	2	0	**3**	1	0	0	4	**5**	**8**
3:00 AM	0	1	2	3	**6**	4	2	3	8	**17**	**23**
4:00 AM	0	3	1	5	**9**	5	5	2	15	**27**	**36**
5:00 AM	6	11	15	23	**55**	7	19	20	25	**71**	**126**
6:00 AM	15	26	23	35	**99**	24	25	39	56	**144**	**243**
7:00 AM	31	45	74	83	**233**	48	51	97	131	**327**	**560**
8:00 AM	75	51	45	39	**210**	141	95	46	45	**327**	**537**
9:00 AM	28	39	33	39	**139**	55	39	53	44	**191**	**330**
10:00 AM	44	55	41	49	**189**	81	46	67	62	**256**	**445**
11:00 AM	43	54	59	61	**217**	71	60	70	50	**251**	**468**
12:00 PM	78	63	62	62	**265**	68	67	88	65	**288**	**553**
1:00 PM	75	77	67	77	**296**	67	64	111	70	**312**	**608**
2:00 PM	68	66	81	94	**309**	74	69	67	72	**282**	**591**
3:00 PM	92	102	88	103	**385**	64	74	154	83	**375**	**760**
4:00 PM	85	78	92	88	**343**	92	89	86	104	**371**	**714**
5:00 PM	84	97	95	73	**349**	85	90	79	91	**345**	**694**
6:00 PM	74	71	77	78	**300**	69	77	51	56	**253**	**553**
7:00 PM	75	70	47	50	**242**	56	45	40	35	**176**	**418**
8:00 PM	46	58	30	36	**170**	29	28	35	22	**114**	**284**
9:00 PM	39	21	24	27	**111**	19	17	10	15	**61**	**172**
10:00 PM	26	28	16	20	**90**	15	8	11	15	**49**	**139**
11:00 PM	13	10	5	8	**36**	2	11	2	1	**16**	**52**
Total	**48.8%**				**4094**	**51.2%**				**4287**	
	8381										

AM%	**33.9%**	**AM Peak**	**747**	**7:30 am to 8:30 am**	**AM P.H.F.**	**0.86**
PM%	**66.1%**	**PM Peak**	**781**	**3:15 pm to 4:15 pm**	**PM P.H.F.**	**0.81**



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

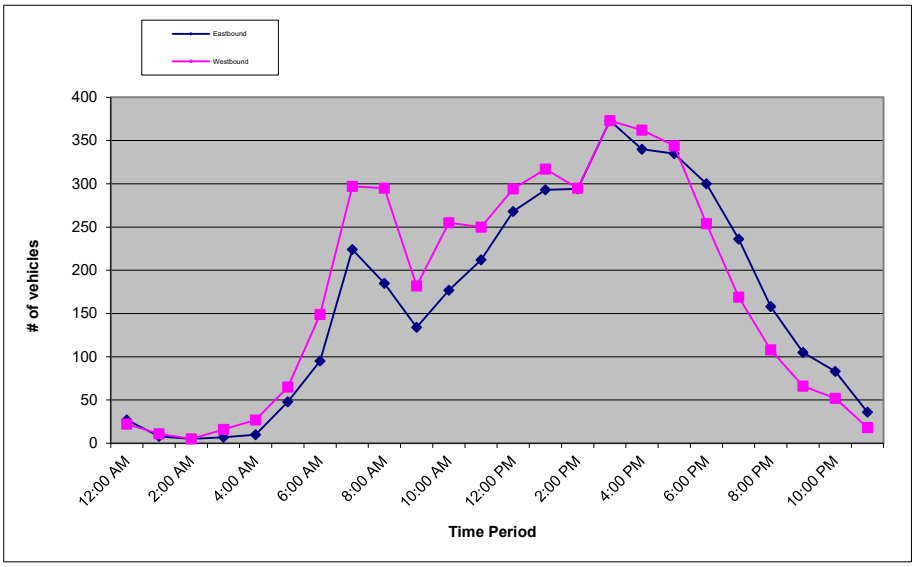
24 Hour Count Report

Prepared For: **JLB Traffic Engineering, Inc.**
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

STREET	Ave 280	**LATITUDE**	36.29816289
SEGMENT	East of Rd 148	**LONGITUDE**	-119.2427386
COLLECTION DATE	Tuesday, October 28, 2025	**WEATHER**	Clear
NUMBER OF LANES	2		

	Eastbound					Westbound					Hourly
Hour	1st	2nd	3rd	4th	**Total**	1st	2nd	3rd	4th	**Total**	**Totals**
12:00 AM	5	10	6	6	**27**	4	5	8	5	**22**	**49**
1:00 AM	2	1	3	2	**8**	5	1	3	2	**11**	**19**
2:00 AM	0	2	2	1	**5**	1	0	0	4	**5**	**10**
3:00 AM	1	1	2	3	**7**	4	2	4	6	**16**	**23**
4:00 AM	0	3	1	6	**10**	5	5	2	15	**27**	**37**
5:00 AM	6	12	12	18	**48**	8	18	16	23	**65**	**113**
6:00 AM	15	26	21	33	**95**	25	27	41	56	**149**	**244**
7:00 AM	33	45	72	74	**224**	47	49	82	119	**297**	**521**
8:00 AM	65	46	38	36	**185**	124	85	44	42	**295**	**480**
9:00 AM	28	39	27	40	**134**	49	38	52	43	**182**	**316**
10:00 AM	39	55	39	44	**177**	78	47	68	62	**255**	**432**
11:00 AM	48	47	58	59	**212**	72	54	74	50	**250**	**462**
12:00 PM	74	65	65	64	**268**	73	67	88	66	**294**	**562**
1:00 PM	75	73	64	81	**293**	63	71	112	71	**317**	**610**
2:00 PM	71	58	79	86	**294**	76	70	73	76	**295**	**589**
3:00 PM	86	94	85	108	**373**	70	71	148	84	**373**	**746**
4:00 PM	93	71	92	84	**340**	90	93	81	98	**362**	**702**
5:00 PM	80	94	91	70	**335**	91	87	73	93	**344**	**679**
6:00 PM	75	77	74	74	**300**	72	76	52	54	**254**	**554**
7:00 PM	73	68	47	48	**236**	49	44	42	34	**169**	**405**
8:00 PM	40	55	28	35	**158**	26	27	34	21	**108**	**266**
9:00 PM	34	19	26	26	**105**	20	19	11	16	**66**	**171**
10:00 PM	24	26	14	19	**83**	16	8	14	14	**52**	**135**
11:00 PM	12	11	6	7	**36**	3	12	1	2	**18**	**54**
Total	**48.3%**				**3953**	**51.7%**				**4226**	
	8179										

AM%	**33.1%**	**AM Peak**	**667**	**7:30 am to 8:30 am**	**AM P.H.F.**	**0.86**
PM%	**66.9%**	**PM Peak**	**773**	**3:15 pm to 4:15 pm**	**PM P.H.F.**	**0.83**



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

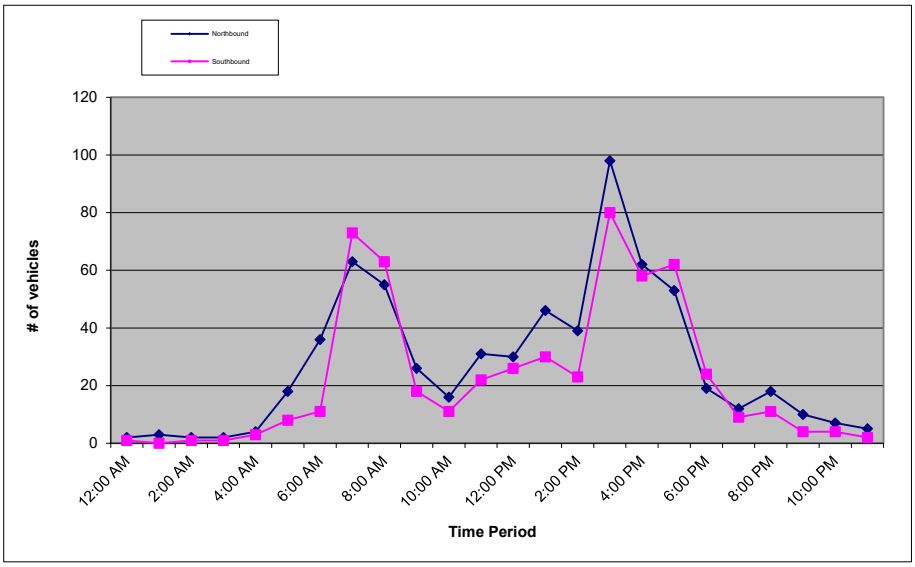
24 Hour Count Report

Prepared For: **JLB Traffic Engineering, Inc.**
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

STREET	Rd 148	**LATITUDE**	36.29833214
SEGMENT	North of Ave 280	**LONGITUDE**	-119.2430521
COLLECTION DATE	Tuesday, October 28, 2025	**WEATHER**	Clear
NUMBER OF LANES	2		

	Northbound					Southbound					Hourly
Hour	1st	2nd	3rd	4th	**Total**	1st	2nd	3rd	4th	**Total**	**Totals**
12:00 AM	0	1	1	0	**2**	0	0	1	0	**1**	**3**
1:00 AM	1	0	1	1	**3**	0	0	0	0	**0**	**3**
2:00 AM	1	0	0	1	**2**	0	1	0	0	**1**	**3**
3:00 AM	0	1	0	1	**2**	0	0	1	0	**1**	**3**
4:00 AM	1	1	0	2	**4**	1	0	1	1	**3**	**7**
5:00 AM	4	3	4	7	**18**	1	1	2	4	**8**	**26**
6:00 AM	6	11	5	14	**36**	1	3	2	5	**11**	**47**
7:00 AM	4	9	23	27	**63**	5	7	27	34	**73**	**136**
8:00 AM	23	17	9	6	**55**	34	22	3	4	**63**	**118**
9:00 AM	8	5	10	3	**26**	10	3	3	2	**18**	**44**
10:00 AM	4	2	5	5	**16**	3	4	3	1	**11**	**27**
11:00 AM	7	11	9	4	**31**	4	6	6	6	**22**	**53**
12:00 PM	8	9	7	6	**30**	3	9	7	7	**26**	**56**
1:00 PM	10	16	14	6	**46**	10	4	9	7	**30**	**76**
2:00 PM	8	12	7	12	**39**	9	4	7	3	**23**	**62**
3:00 PM	18	27	41	12	**98**	5	12	51	12	**80**	**178**
4:00 PM	14	20	13	15	**62**	11	14	16	17	**58**	**120**
5:00 PM	21	15	7	10	**53**	16	24	14	8	**62**	**115**
6:00 PM	7	5	6	1	**19**	6	9	3	6	**24**	**43**
7:00 PM	4	5	2	1	**12**	3	3	1	2	**9**	**21**
8:00 PM	6	7	2	3	**18**	1	5	2	3	**11**	**29**
9:00 PM	4	5	1	0	**10**	2	0	2	0	**4**	**14**
10:00 PM	3	0	2	2	**7**	0	1	1	2	**4**	**11**
11:00 PM	1	1	2	1	**5**	0	1	0	1	**2**	**7**
Total	**54.7%**				**657**	**45.3%**				**545**	
	1202										

AM%	**39.1%**	**AM Peak**	**207**	**7:30 am to 8:30 am**	**AM P.H.F.**	**0.85**
PM%	**60.9%**	**PM Peak**	**180**	**3:15 pm to 4:15 pm**	**PM P.H.F.**	**0.49**



Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230

800-975-6938 Phone/Fax
www.metrotrafficdata.com

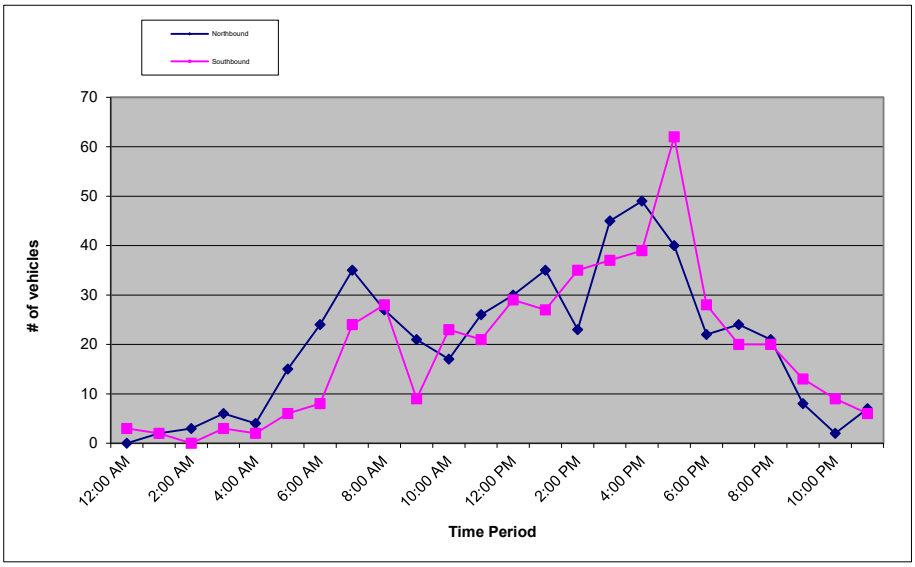
24 Hour Count Report

Prepared For: **JLB Traffic Engineering, Inc.**
516 W. Shaw Ave, Suite 103
Fresno, CA 93704

STREET	Rd 148	**LATITUDE**	36.29793736
SEGMENT	South of Ave 280	**LONGITUDE**	-119.2430443
COLLECTION DATE	Tuesday, October 28, 2025	**WEATHER**	Clear
NUMBER OF LANES	2		

	Northbound					Southbound					Hourly
Hour	1st	2nd	3rd	4th	**Total**	1st	2nd	3rd	4th	**Total**	**Totals**
12:00 AM	0	0	0	0	**0**	0	1	1	1	**3**	**3**
1:00 AM	0	0	1	1	**2**	1	0	1	0	**2**	**4**
2:00 AM	1	0	0	2	**3**	0	0	0	0	**0**	**3**
3:00 AM	1	2	0	3	**6**	0	1	2	0	**3**	**9**
4:00 AM	0	1	0	3	**4**	0	0	1	1	**2**	**6**
5:00 AM	2	5	3	5	**15**	0	1	0	5	**6**	**21**
6:00 AM	6	7	3	8	**24**	2	1	4	1	**8**	**32**
7:00 AM	4	9	14	8	**35**	2	5	5	12	**24**	**59**
8:00 AM	7	6	9	5	**27**	11	6	8	3	**28**	**55**
9:00 AM	6	5	6	4	**21**	2	2	4	1	**9**	**30**
10:00 AM	6	4	4	3	**17**	7	7	5	4	**23**	**40**
11:00 AM	9	7	6	4	**26**	2	3	8	8	**21**	**47**
12:00 PM	6	8	10	6	**30**	10	6	7	6	**29**	**59**
1:00 PM	13	10	8	4	**35**	9	9	7	2	**27**	**62**
2:00 PM	8	4	4	7	**23**	8	5	12	10	**35**	**58**
3:00 PM	9	14	7	15	**45**	8	4	14	11	**37**	**82**
4:00 PM	16	12	10	11	**49**	3	17	8	11	**39**	**88**
5:00 PM	9	10	13	8	**40**	14	19	18	11	**62**	**102**
6:00 PM	5	6	6	5	**22**	6	3	7	12	**28**	**50**
7:00 PM	13	6	3	2	**24**	7	5	4	4	**20**	**44**
8:00 PM	7	8	3	3	**21**	5	8	4	3	**20**	**41**
9:00 PM	1	4	2	1	**8**	5	3	2	3	**13**	**21**
10:00 PM	2	0	0	0	**2**	2	3	4	0	**9**	**11**
11:00 PM	1	2	4	0	**7**	2	2	0	2	**6**	**13**
Total	**51.7%**				**486**	**48.3%**				**454**	
	940										

AM%	**32.9%**	**AM Peak**	**71**	**7:15 am to 8:15 am**	**AM P.H.F.**	**0.89**
PM%	**67.1%**	**PM Peak**	**105**	**4:45 pm to 5:45 pm**	**PM P.H.F.**	**0.85**



Appendix C: Traffic Modeling

August 28, 2025

Roberto Brady
Senior Regional Planner
Tulare County Association of Governments (TCAG)
210 N. Church St. Suite B
Visalia, CA 93291

Via E-mail: rbrady@tularecag.ca.gov

Subject: ***Traffic Modeling Request for the Preparation of a Traffic Impact Analysis Support of the Clements Ranch located on the Northeast Quadrant of Lovers Lane and Caldwell Avenue in the City of Visalia (JLB Project 013-028)***

Dear Mr. Brady,

JLB Traffic Engineering, Inc. (JLB) hereby requests traffic modeling for the above referenced Project located in the City of Visalia. The Project proposes to develop the site with a mix of single-family (292 dwelling units) and multi-family residential (370 dwelling units) on the northeast quadrant of Lovers Lane at Caldwell Avenue in the City of Visalia. Based on information provided to JLB, the Project will require a General Plan Amendment to shift densities within the Project. The Project Site Plan is shown in Exhibit A.

The purpose of the TIA is to evaluate potential on-site and off-site traffic impacts, identify short-term roadway and circulation needs, determine potential mitigation measures and identify any critical traffic issues that should be addressed in the on-going planning process.

Scenarios:

The following scenarios are requested:

1. Base Year 2015 plus Project Select Zone (with Link and TAZ modifications)
2. Cumulative Year 2046 No Project (with Link and TAZ modifications)
3. Difference between scenarios 1 and 2.

Changes and/or additions to the Model Network or TAZ's

JLB reviewed the TCAG model network for the Base Year 2015 and Cumulative Year 2046. Based on this review, JLB requests the following Link and TAZ Network modifications. Details on the requested Link and TAZ modifications for the Base Year 2015 and the Cumulative Year 2046 are illustrated in Exhibit B.

LINK and TAZ MODIFICATIONS (For Base Year 2015 plus Project and Cumulative Year 2046 No Project Scenarios):

1. Modify TAZ 1421 to eliminate its TAZ connector to Lovers Lane.

LINK and TAZ MODIFICATIONS (For Base Year 2015 plus Project Scenario Only):

1. Create TAZ A to be generally located 600 feet east of Lovers Lane and 1,300 feet north of Caldwell Avenue (See Exhibit B). TAZ A shall have one TAZ connector to Lovers Lane.

TAZ A Trip Generation

The trip generation rates for TAZ A were obtained from the 11th Edition of the Trip Generation Manual published by the Institute of Transportation Engineers (ITE). Table I presents the trip generation for TAZ A with trip generation rates for Single Family Detached Housing and Multifamily Housing (Low-Rise). At buildout, TAZ A is estimated to generate approximately 5,248 daily trips, 352 AM peak hour trips and 463 PM peak hour trips

Table I: TAZ A Trip Generation

Land Use (ITE Code)	Size	Unit	Daily		AM Peak Hour						PM Peak Hour					
			Rate	Total	Trip Rate	In %	Out %	In	Out	Total	Trip Rate	In %	Out %	In	Out	Total
Single-Family Detached Housing (210)	292	d.u	9.43	2,754	0.70	26	74	53	151	204	0.94	63	37	173	101	274
Multifamily Housing (Low-Rise) (220)	370	d.u.	6.24	2,494	0.40	24	76	36	112	148	0.51	63	37	119	70	189
Total Project Trips				**5,248**				**89**	**263**	**352**				**292**	**171**	**463**

Note: d.u.= Dwelling Units

If you have any questions or require additional information, please do not hesitate to contact me by phone at (559) 317-6243 or by e-mail at marndt@JLBtraffic.com.

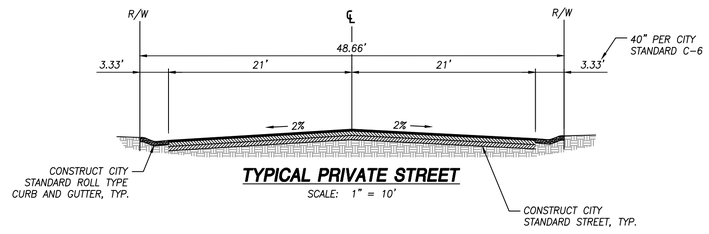
Sincerely,

Matthew Arndt
Project Engineer – Traffic Operations

CC: Jose Benavides, JLB Traffic Engineering, Inc.
Kasia Poleszczuk, TCAG

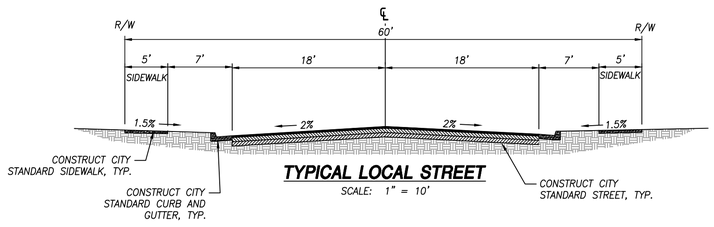
JLB TRAFFIC ENGINEERING, INC.
www.JLBtraffic.com
info@JLBtraffic.com
516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570-8991

Exhibit A – Project Site Plan



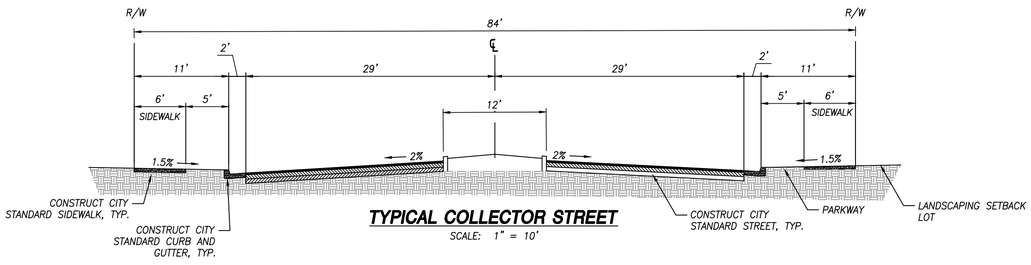
TYPICAL PRIVATE STREET

SCALE: 1" = 10'



TYPICAL LOCAL STREET

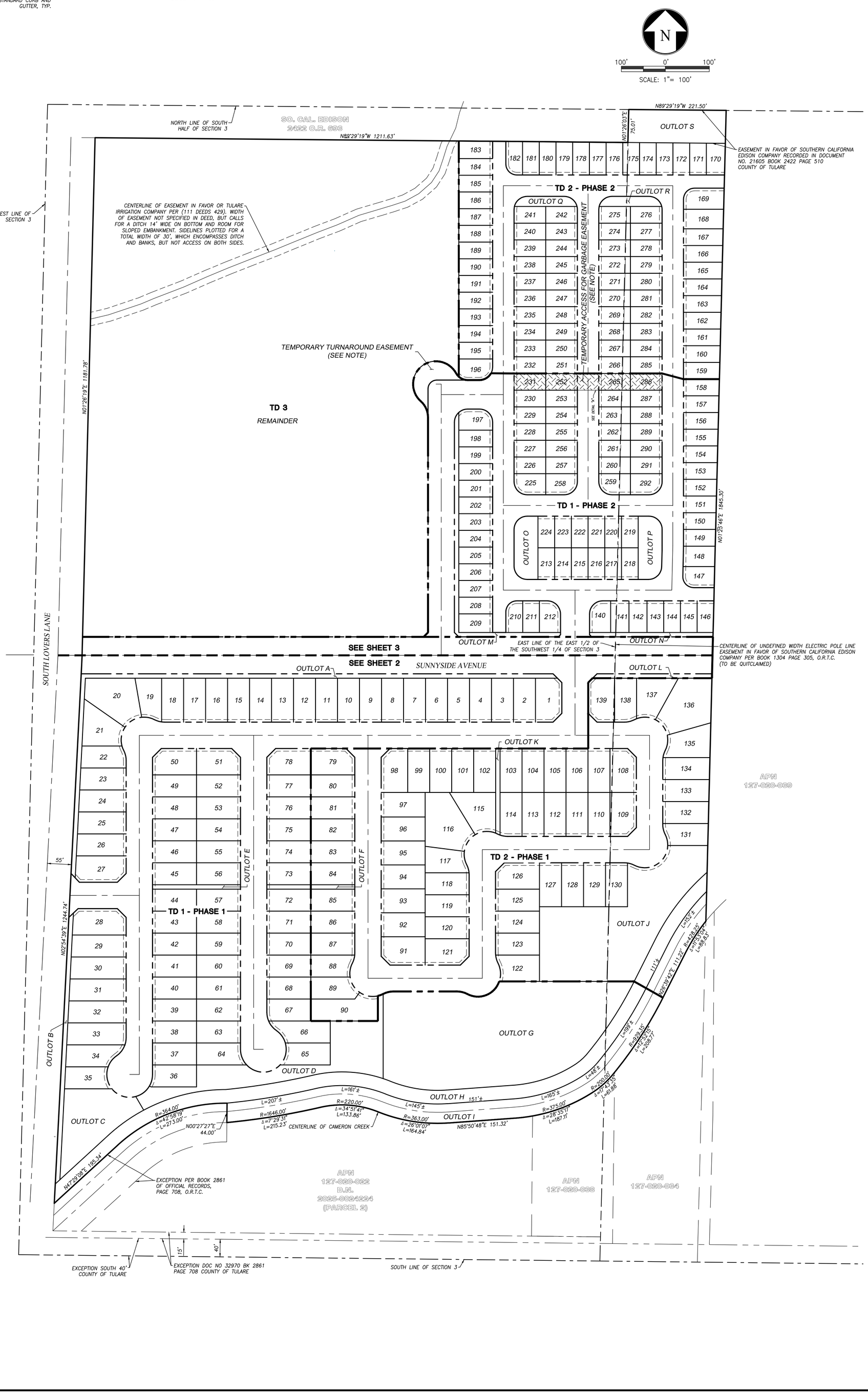
SCALE: 1" = 10'



TYPICAL COLLECTOR STREET

SCALE: 1" = 10'

OVERALL BOUNDARY



TENTATIVE SUBDIVISION MAP

BEING THE WEST HALF OF THE SOUTHWEST QUARTER OF SECTION 3, T.19S., R.25E., MOUNT DIABLO BASE AND MERIDIAN, IN THE COUNTY OF TULARE, STATE OF CALIFORNIA.

BY:

QK

WWW.QKINC.COM
1-800-955-7599
BAKERSFIELD, CLOVIS, HANFORD, MERCED, PORTERVILLE, VISALIA

© COPYRIGHT BY QUAD KNOPF, INC. UNAUTHORIZED USE PROHIBITED.

RECORD OWNER

HAROLD DEAN CLEMENTS

SUBDIVIDER

D.R. HORTON, AMERICA'S BUILDER
419 W. MURRAY AVENUE
VISALIA, CA 93231
(559) 636-9850

LAND SURVEYOR

ANTONIO S. WESTERLUND, PLS, CFedS
601 POLLASKY AVE
SUITE 301
CLOVIS, CA 93612
(559)449-2400

LEGEND

ALL DISTANCES SHOWN ARE IN U.S. SURVEY FEET AND DECIMALS THEREOF, UNLESS OTHERWISE NOTED.

- SUBDIVISION BOUNDARY
- PROPOSED CENTERLINE
- SECTION LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING RIGHT OF WAY
- PROPOSED PARCEL LINES
- PROPOSED PUBLIC UTILITY EASEMENT
- SHEET INDEX LINE
- PHASE LINE

PROPOSED UNITS

MINIMUM LOT SIZES	NO. OF UNITS
50' X 100' LOTS	139
38' X 72' LOTS	153

UTILITIES

SOUTERN CALIFORNIA EDISON:
MISAEL IBARRA
2425 S. BLACKSTONE STREET,
TULARE, CA 93274
O: 559-684-3532
C: 559-801-1272
misael.ibarra@sce.com

AT&T:
ERIN PECTOL
217 W. ACEQUIA AVENUE,
VISALIA, CA 93291
O: 559-739-6649
C: 559-737-1637
ep8545@att.com

SOUTHERN CALIFORNIA GAS COMPNAY:
JUAN MEJORADO
404 N. TIPTON STREET,
VISALIA, CA 93292
PHONE: 559-739-2317
JMMejorado@socalgas.com

COMCAST:
MICHAEL CORRAL
1031 N. PLAZA DRIVE,
VISALIA, CA 93291
O: 559-735-2104
C: 559-217-9003
Michael_Corral@comcast.com

SITE DRAINAGE:
CITY OF VISALIA WASTEWATER DIVISION
7579 AVE 288,
VISALIA, CA 93277
PHONE: 559-713-4465

PROPOSED SEWERAGE:
CITY OF VISALIA WASTEWATER DIVISION
7579 AVE 288,
VISALIA, CA 93277
PHONE: 559-713-4465

WATER:
CALIFORNIA WATER SERVICE
216 N. VALLEY OAKS DRIVE,
VISALIA, CA 93292
PHONE: 559-624-1600

FIRE PROTECTION:
CITY OF VISALIA
420 N. BURKE STREET,
VISALIA, CA 93292
PHONE: 559-713-4266

SOLID WASTE COLLECTION:
CITY OF VISALIA
SOLID WASTE DIVISION
PHONE: 559-713-4499

LEGAL DESCRIPTION

REAL PROPERTY IN THE UNINCORPORATED AREA OF THE COUNTY OF TULARE, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

PARCEL 2:

THAT PORTION OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SECTION 3, TOWNSHIP 19 SOUTH, RANGE 25 EAST, MOUNT DIABLO BASE AND MERIDIAN, ACCORDING TO THE OFFICIAL PLAT THEREOF, DESCRIBED AS FOLLOWS:

BEGINNING 1100 FEET WEST OF THE SOUTHWEST CORNER OF THE SOUTHWEST QUARTER OF SAID SECTION 3; THENCE WEST 220 FEET TO THE SOUTHWEST CORNER OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SAID SECTION 3; THENCE NORTH NORTH ALONG THE WEST LINE OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SAID SECTION, 160 RODS TO THE NORTHWEST CORNER OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SAID SECTION 3; THENCE EAST 220 FEET TO A POINT 1100 FEET WEST OF THE NORTHEAST CORNER OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SECTION 3; THENCE SOUTH 160 RODS TO THE POINT OF BEGINNING.

EXCEPTING THEREFROM THAT PORTION LYING SOUTH OF THE CENTERLINE OF CAMERON CREEK, AS SAID CREEK EXISTED ON FEBRUARY 3, 1970.

APN: 127-020-020, 127-020-021 AND 127-020-022

NOTES

1. ADDRESS: VACANT LAND, TULARE COUNTY, CA 93292
2. DATE: JULY, 2025
3. EXISTING ZONING, LAND USE: R-2 (TULARE COUNTY)
4. EXISTING LAND USE: AE20 – EXCLUSIVE AGRICULTURE, 20-ACRE MINIMUM
5. PROPOSED ZONING, LAND USE: R-1-5 AND R-M-2
6. SITE AREA: 78.11 ACRES(GROSS)/34.51 ACRES(NET)
7. NO GRADE DIFFERENTIALS MORE OF MORE THAN 6" IS FORESEEN. ANY GRADE DIFFERENTIALS ACROSS EXISTING AND PROPOSED PROPERTY LINES WILL BE MITIGATED PER COUNTY OF TULARE REQUIREMENTS.
8. PROPOSED SEWER, WATER, CONCRETE CURBS, GUTTERS, SIDEWALKS, STREETLIGHTS, AND STREET PAVEMENT TO BE INSTALLED PER COUNTY OF TULARE STANDARD SPECIFICATIONS.
9. ALL STREETS WITHIN THIS SUBDIVISION TO BE OFFERED FOR DEDICATION FOR PUBLIC STREET PURPOSES.
10. ALL EXISTING WATER LINES, SEWERS, AND STORM DRAINS WILL REMAIN UNLESS OTHERWISE NOTED.
11. ALL EXISTING STRUCTURES ARE TO BE REMOVED. WELLS AND SEPTIC SYSTEMS ARE TO BE ABANDONED PER CITY AND COUNTY STANDARDS.
12. THERE ARE KNOWN UNDERGROUND FEATURES SUCH AS WELLS WITHIN THE PROPOSED SUBDIVISION.
13. ENTIRE SITE IS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD: FLOOD ZONE-X AND ZONE-AE PER PANEL 945 OF 2550, MAP NO. 06107C0945E.
14. THERE ARE NO DUMP SITES ON THIS PROPERTY.
15. EXISTING SERVICE POLES TO BE REMOVED.
16. ALL EXISTING TREES TO BE REMOVED WITHIN THE BOUNDARY OF THE SUBDIVISION.
17. RESIDENTIAL BUILDINGS EXIST ONLY ON THE REMAINDER, AND WILL REMAIN UNTIL THE DEVELOPMENT OF SAID REMAINDER.
18. THIS IS A PHASED SUBDIVISION, CONSISTING OF FOUR PHASES WHICH ARE LABELED HEREON.

OUTLOT SCHEDULE

OUTLOTS A, B, E, F, H-P	TO BE DEDICATED TO THE CITY OF VISALIA FOR OPEN SPACE, PEDESTRIAN, PUBLIC LANDSCAPE PURPOSES.
OUTLOT D AND H	TO BE DEDICATED TO THE CITY OF VISALIA FOR TRAIL PURPOSES
OUTLOT C-WATER WELL	TO BE MAINTAINED BY CITY OF VISALIA USED FOR WATER WELL PURPOSES ONLY.
OUTLOT G-STORMWATER BASIN	TO BE MAINTAINED BY CITY OF VISALIA FOR STORM DRAIN PURPOSES ONLY.
OUTLOT I	TO BE DEDICATED TO TULARE COUNTY IRRIGATION DISTRICT
OUTLOTS N, O, P, AND Q	TO BE MAINTAINED BY HOA
OUTLOT S	TO BE DEEDED TO SOUTHER CALIFORNIA EDISON

TEMPORARY TURNAROUND EASEMENT NOTE

THE AREA SHOWN HEREON AS "TEMPORARY TURNAROUND EASEMENT" IS INTENDED TO FACILITATE VEHICLE ACCESS AND TURNAROUND OUTSIDE OF THE HOA DEVELOPMENT UNTIL THE TIME OF DEVELOPMENT OF THE REMAINDER. SEPARATE FROM THIS TSM, A PARCEL MAP IS BEING PROCESSED. INTENTION IS TO OFFER THIS AREA AS AN I.O.D. FOR PUBLIC ACCESS WITH THE PARCEL MAP AND TO HAVE SAID OFFER ACCEPTED BY RESOLUTION AT THE TIME OF DEVELOPMENT OF THE AREA LABELED HEREON AS "PHASE 3". AT THE TIME OF FUTURE DEVELOPMENT OF THE REMAINDER, SAID EASEMENT WOULD BE ABANDONED.

TEMPORARY ACCESS FOR GARBAGE EASEMENT NOTE

THE AREA SHOWN HEREON AS "TEMPORARY ACCESS FOR GARBAGE EASEMENT" IS INTENDED TO FACILITATE VEHICLE ACCESS TO COLLECT GARBAGE. SAID EASEMENT WOULD BE ABANDONED AND ABLE TO BUILD ON IT DURING TD-2 PHASE 2.

VICINITY MAP

N.T.S.

L:\PROJECTS\2024\240208\ACAD\TENTATIVE MAP\240208-TSM.DWG 7/24/2025 2:34 PM

Exhibit B – Model TAZ Modifications

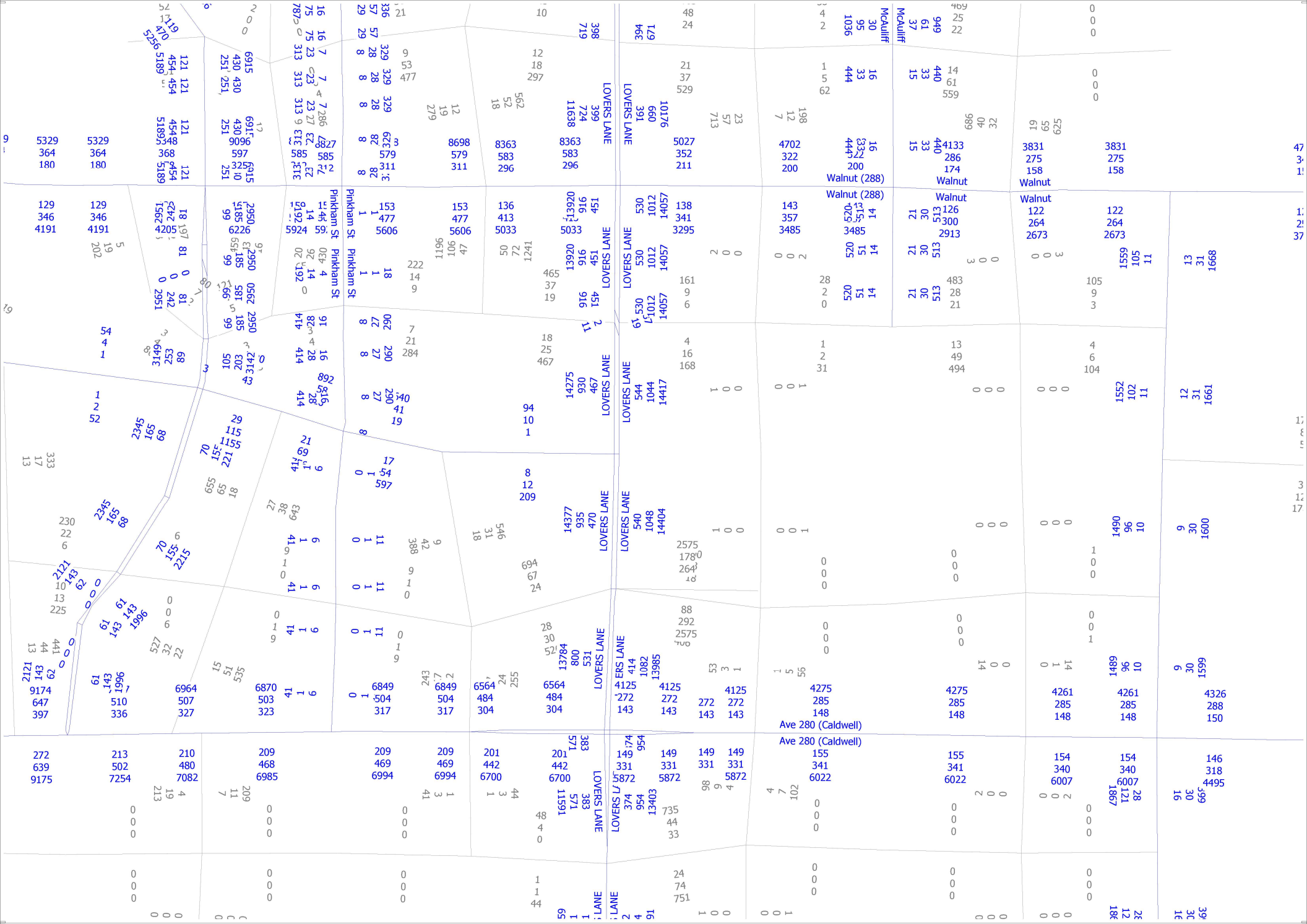
Clements Ranch
Cumulative Year 2046
Name, Lanes, Speed

cube
(Licensed to JLB Traffic Engineering, Inc)

Clements Ranch
Base Year 2015
Name, Lanes, Speed

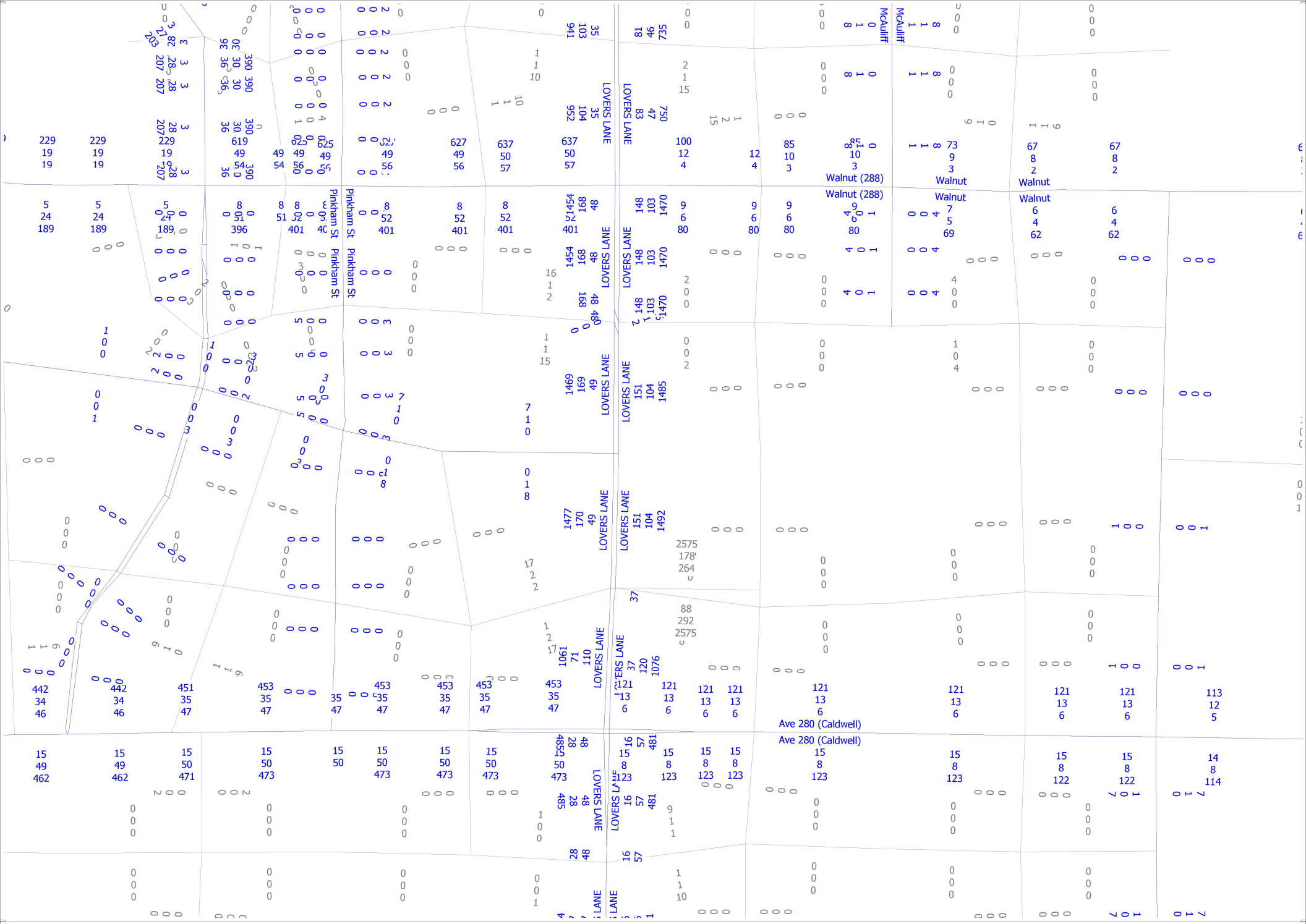
cube

(Licensed to JLB Traffic Engineering, Inc)



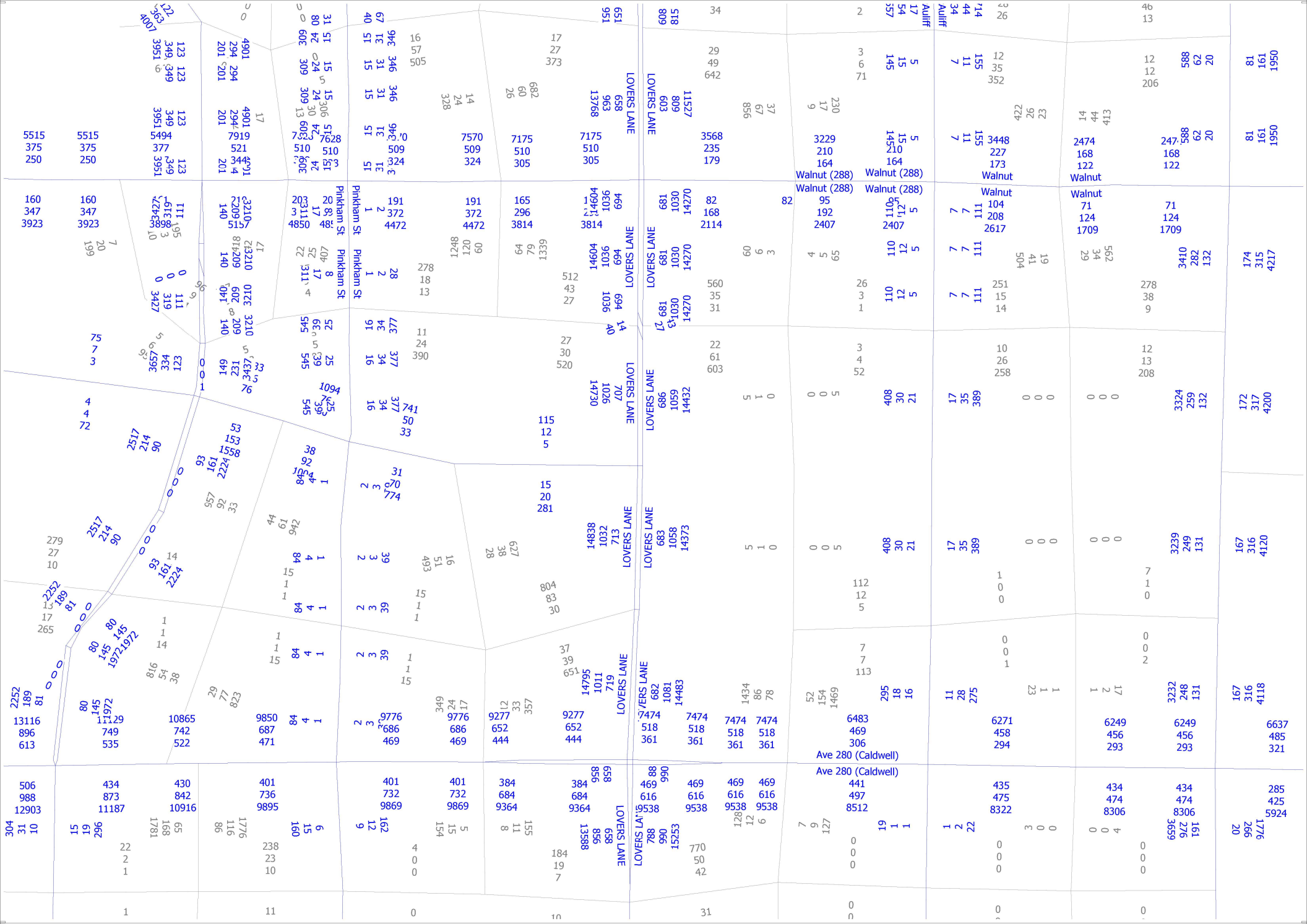
Clements Ranch
Base Year 2015 plus Project
AM, PM and Daily Volumes

cube
(Licensed to)



Clements Ranch
Base Year 2015 plus Project - Select Zone
AM, PM and Daily Volumes

cube
(Licensed to)



Clements Ranch
Cumulative Year 2046 No Project
AM, PM and Daily Volumes

cube
(Licensed to)

Appendix D: Methodology

Levels of Service Methodology

The description and procedures for calculating capacity and level of service (LOS) are found in the Transportation Research Board, Highway Capacity Manual (HCM). The HCM 7th Edition represents the research on capacity and quality of service for transportation facilities.

Quality of service requires quantitative measures to characterize operational conditions within a traffic stream. Level of service is a quality measure describing operational conditions within a traffic stream, generally in terms of such service measures as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience.

Six levels of service are defined for each type of facility that has analysis procedures available. Letters designate each level of service (LOS), from A to F, with LOS A representing the best operating conditions and LOS F the worst. Each LOS represents a range of operating conditions and the driver's perception of these conditions. Safety is not included in the measures that establish an LOS.

Intersection Levels of Service

One of the more important elements limiting and often interrupting the flow of traffic on a highway is the intersection. Flow on an interrupted facility is usually dominated by points of fixed operation such as traffic signals, stop signs and yield signs.

Signalized Intersections

LOS can be characterized for the entire intersection, each intersection approach and each lane group. Control delay alone is used to characterize LOS for the entire intersection or an approach. Control delay and volume-to-capacity ratio are used to characterize LOS for a lane group. Delay quantifies the increase in travel time due to traffic signal control. It is also a surrogate measure of driver discomfort and fuel consumption. The volume-to-capacity ratio quantifies the degree to which a phase's capacity is utilized by a lane group. A description of LOS for signalized intersections is found in Table A-1.

Table 1: Signalized Intersection LOS Description (Motorized Vehicle Mode)

Level of Service	*Description*	*Average Control Delay (Seconds per Vehicle)*
A	Operations with a control delay of 10 seconds/vehicle or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is really low and either progression is exceptionally favorable or the cycle length is very short. If it's due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.	≤10
B	Operations with control delay between 10.1 to 20.0 seconds/vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.	>10.0 to 20.0
C	Operations with average control delays between 20.1 to 35.0 seconds/vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio no greater than 1.0, the progression is favorable or the cycle length is moderate. Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.	>20 to 35
D	Operations with control delay between 35.1 to 55.0 seconds/vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.	>35 to 55
E	Operations with control delay between 55.1 to 80.0 seconds/vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable and the cycle length is long. Individual cycle failures are frequent.	>55 to 80
F	Operations with unacceptable control delay exceeding 80.0 seconds/vehicle and a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor and the cycle length is long. Most cycles fail to clear the queue.	>80

Note: Source: Highway Capacity Manual 7th Edition

All-Way Stop Controlled Intersections

All-way stop controlled intersections are common in the United States. They are characterized by having all approaches controlled by stop sign without any street having priority. Streets intersecting at all-way stop controlled intersections can be public or private. The intersection analysis boundaries for an all-way stop controlled intersection are assumed to be those of an isolated intersection, no upstream or downstream effects are accounted for in analysis.

Two-Way Stop Controlled Intersections

Two-way stop controlled (TWSC) intersections are also common in the United States. A typical configuration is a four-leg intersection in which one street, the major street, is uncontrolled and the other street, the minor street, is controlled by stop signs. The other typical intersection is a three-leg intersection in which a single minor street approach is controlled by a stop sign.

For the analysis of the motorized vehicle mode, the methodology addresses special circumstances that may exist at two-way stop controlled intersections including two-stage gap acceptance, approaches with shared lanes, the presence of upstream traffic signals and flared approaches for minor-street right-turning vehicles. Table A-2 provides a description of LOS at unsignalized intersections.

Table 2: Unsignalized Intersection LOS Description (Motorized Vehicle Mode)

Control Delay (Seconds per Vehicle)	***LOS by Volume-to-Capacity Ratio***	
	v/c ≤ 1.0	***v/c > 1.0***
≤10	A	F
>10 to 15	B	F
>15 to 25	C	F
>25 to 35	D	F
>35 to 50	E	F
>50	F	F

Note: Source: HCM 7th Edition, Exhibit 21-8.

Roundabout Controlled Intersections

Roundabouts are intersections with a generally circular shape, characterized by yield on entry and circulation around a central island. Roundabouts have been used successfully throughout the world and are being used increasingly in the United States, especially since 1990. Intersection analysis models generally fall into two categories: regression models and analytical models. Regression models use field data to develop statistically derived relationships between geometric features and performance measures such as capacity and delay. Analytical models are based on traffic flow theory combined with field measures of driver behavior, resulting in an analytical formulation of the relationship of driver behavior, resulting in an analytical formulation of the relationship between those field measures and performance measures such as capacity and delay. Table A-3 provides a description of LOS at roundabout intersections.

Table 3: Roundabout Intersection Level of Service Description (Automobile Mode)

Control Delay (Seconds per Vehicle)	***LOS by Volume-to-Capacity Ratio***	
	v/c ≤ 1.0	***v/c > 1.0***
≤10	A	F
>10 to 15	B	F
>15 to 25	C	F
>25 to 35	D	F
>35 to 50	E	F
>50	F	F

Note: Source: HCM 7th Edition, Exhibit 22-8.

Segment Levels of Service

Segments are portions of roads without any interruption of flow. These typically include basic freeway segments, multilane highway segments, freeway weaving segments, freeway merge and diverge segments, two-lane highway segments and urban street segments.

Urban Street Segments (Motorized Vehicle Mode)

The term "urban street segments" refers to two elements that are found: points and segments. A point is the boundary between links and is represented by an intersection or ramp terminal. A link is a length of roadway between two points. A link and its boundary are referred to as a segment. A signalized intersection is always used to define a boundary. Only intersections, or ramp terminals, in which the segment through volumes is uncontrolled can exist along the segment. A midsegment traffic control signal provided for the exclusive use of pedestrians should not be used to define a segment boundary. Chapter 18 of the Highway Capacity Manual categorizes each LOS as follows:

LOS A describes primarily free-flow operation. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control delay at signalized intersections is minimal. Travel speeds exceed 80 percent of the base free flow speed (FFS) and the volume-to-capacity ratio is no greater than 1.0.

LOS B describes reasonably unimpeded operation. The ability to maneuver within the traffic stream is only slightly restricted and control delay at the boundary intersections is not significant. The travel speed is between 67 and 80 percent of the base FFS and the volume-to-capacity ratio is no greater than 1.0.

LOS C describes stable operations. The ability to maneuver and change lanes in midblock location may be more restricted than at LOS B. Longer queues at the boundary intersections may contribute to lower travel speeds. The travel speed is between 50 and 67 percent of the base FFS and the volume-to-capacity ratio is no greater than 1.0.

LOS D indicates a less stable condition in which small increases in flow may cause substantial increases in delay and decreases in travel speed. This operation may be due to adverse signal progression, high volumes or inappropriate signal timing at the boundary intersections. The travel speed is between 40 and 50 percent of the base FFS and the volume-to-capacity ratio is no greater than 1.0.

LOS E is characterized as an unstable operation and has significant delay. Such operations may be due to some combination of adverse progression, high volume and inappropriate signal timing at the boundary intersections. The travel speed is between 30 and 40 percent of the base FFS and the volume-to-capacity ratio is no greater than 1.0.

LOS F is characterized by flow at extremely low speed. Congestion is likely occurring at the boundary intersections, as indicated by high delay and extensive queuing. The travel speed is 30 percent or less of the base FFS or the volume-to-capacity ratio is greater than 1.0.

Urban Street Segments LOS

Two performance measures are used to characterize vehicular LOS for a given direction of travel along an urban street segment. One measure is travel speed for through vehicles. This speed reflects the factors that influence running time along the link and the delay uncured by through vehicles at the boundary intersections. The second measures Is the volume-to-capacity ratio for the through movements at the downstream boundary intersection. These performance measures indicate the degree of mobility provided by the segment. Table A-4 provides a description of LOS for Urban Street Segments.

Table 4: Urban Street Segment Levels of Service (Motorized Vehicle Mode)

LOS	*Travel Speed Threshold by Base Free-Flow Speed (miles/hour)*							*Volume-to-Capacity Ratio*
	55	**50**	**45**	**40**	**35**	**30**	**25**	
A	>44	>40	>36	>32	>28	>24	>20	≤ 1.0
B	>37	>34	>30	>27	>23	>20	>17	
C	>28	>25	>23	>20	>18	>15	>13	
D	>22	>20	>18	>16	>14	>12	>10	
E	>17	>15	>14	>12	>11	>9	>8	
F	≤17	≤15	≤14	≤12	≤11	≤9	≤8	
F	Any							> 1.0

Note: a = Volume-to-capacity ratio of through movement at downstream boundary intersection.
Source: Highway Capacity Manual 7th Edition, Exhibit 18-1.

Basic Freeway and Multilane Highway Segments

Segments of multilane highways and basic freeways outside the influence of merging maneuvers, diverging maneuvers, weaving maneuvers, or signalized intersections define LOS by density. Density describes a motorist's proximity to other vehicles and is related to a motorist's freedom to maneuver within the traffic stream. Chapter 12 of the Highway Capacity Manual categorizes each LOS as follows:

LOS A describes free-flow operations. FFS prevails on the freeway or multilane highway, and vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream. The effects of incidents or point breakdowns are easily absorbed.

LOS B represents reasonably free-flow operations, and FFS on the freeway or multilane highway is maintained. The ability to maneuver within the traffic stream is only slightly restricted, and the general level of physical and psychological comfort provided to drivers is still high. The effects of minor incidents are still easily absorbed.

LOS C provides for flow with speeds near the FFS of the freeway or multilane highway. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver. Minor incidents may still be absorbed, but the local deterioration in service quality will be significant. Queues may be expected to form behind any significant blockages.

LOS D is the level at which speeds begin to decline with increasing flows, with density increasing more quickly. Freedom to maneuver within the traffic stream is seriously limited, and drivers experience reduced physical and psychological comfort levels. Even minor incidents can be expected to create queuing, because the traffic stream has little space to absorb disruptions.

LOS E describes operation at or near capacity. Operations on the freeway or multilane highway at this level are highly volatile because there are virtually no usable gaps within the traffic stream, leaving little room to maneuver within the traffic stream. Any disruption to the traffic stream, such as vehicles entering from a ramp or an access point or a vehicle changing lanes, can establish a disruption wave that propagates throughout the upstream traffic stream. Toward the upper boundary of LOS E, the traffic stream has no ability to dissipate even the most minor disruption, and any incident can be expected to produce a serious breakdown and substantial queuing. The physical and psychological comfort afforded to drivers is poor.

LOS F describes unstable flow. Such conditions exist within queues forming behind bottlenecks. Breakdowns occur for a number of reasons:

- Traffic incidents can temporarily reduce the capacity of a short segment so that the number of vehicles arriving at a point is greater than the number of vehicles that can move through it.
- Points of recurring congestion, such as merge or weaving segments and lane drops, experience very high demand in which the number of vehicles arriving is greater than the number of vehicles that can be discharged.
- In analyses using forecast volumes, the projected flow rate can exceed the estimated capacity of a given location.

Basic Freeway

Basic Freeway segments generally have four to eight lanes (in both directions) and posted speed limits between 50 and 75 mi/hr. The median type depends on right-of-way constraints and other factors. The performance measures include capacity, free flow speed, demand and volume-to-capacity ratio, space mean speed, average density and LOS. The following performance measures are evaluated for each segment: capacity, FFS, demand-to-capacity or volume-to-capacity ratios, space mean average, average density, travel time, vehicle miles traveled, vehicle hours of travel and vehicle hours of delay. Table A-5 provides a description of LOS for Basic Freeway Segments.

Multilane Highway

Multilane Highway segments generally have four to six lanes (in both directions) and posted speed limits between 40 and 55 mi/hr. These highways may be divided, undivided or divided by a two-way left-turn lane. The performance measures include capacity, free flow speed, demand and volume-to-capacity ratio, space mean speed, average density and LOS. The following performance measures are evaluated for each segment: capacity, FFS, demand-to-capacity or volume-to-capacity ratios, space mean average, average density, travel time, vehicle miles traveled, vehicle hours of travel and vehicle hours of delay. Table A-5 provides a description of LOS for Multilane Highway Segments.

Table 5: Basic Freeway and Multilane Highway Segment Level of Service Description

Level of Service	*Density (Passenger Cars per Mile per Lane)*	
	Urban	*Rural*
A	≤11	≤6
B	>11 to 18	>6 to 14
C	>18 to 26	>14 to 22
D	>26 to 35	>22 to 29
E	>35 to 45	>29 to 39
F	>45 or Demand Exceeds Capacity	>39 or Demand Exceeds Capacity

Note: Source: HCM 7th Edition, Exhibit 10-6.

Two-Lane Highway Segments

Two-Lane Highways generally have one lane per direction. The single lane in each direction may be supplemented with passing lanes, truck climbing lanes, turnouts or pullouts. If allowed, passing maneuvers are limited by the availability of gaps in the opposing traffic stream and by the availability of sufficient sight distance for a driver to discern the approach of an opposing vehicle safely. A principal measure of LOS is average speed, percent followers and follower density. Chapter 15 of the Highway Capacity Manual categorizes each LOS as follows:

At **LOS A**, motorists experience operating speeds near the posted speed limit and little difficulty in passing. Platooning is minimal and follower density is very low.

At **LOS B through LOS D,** represent gradations between the conditions for LOS A and LOS E.

At **LOS E**, speeds may still be reasonable, but platooning is significant and follower density is high. Passing, if allowed is essentially impossible.

LOS F exists whenever demand flow in one or both directions exceeds the segment's capacity. When demand exceeds capacity, it is expected that there will be a reduction in the capacity at the bottleneck.

Two-Lane Highway

The performance measures include average speed, FFS and follower density. The LOS output is calculated for an establish segment boundary that includes consistent terrain, lane widths, shoulder widths, facility classification and demand flow rate. Table A-6 provides a description of LOS for Two-Lane Highway Segments.

Table 6: Two-Lane Highway Segment Level of Service Description

LOS	*Follower Density (Followers per Mile per Lane)*	
	Higher-Speed Highways Posted Speed Limit ≥ 50 miles per hour	*Lower-Speed Highways Posted Speed Limit < 50 miles per hour*
A	≤2.0	≤2.5
B	>2.0 to 4.0	>2.5 to 5.0
C	>4.0 to 8.0	>5.0 to 10.0
D	>8.0 to 12.0	>10.0 to 15.0
E	>12.0	>15.0

Note: Source: HCM 7th Edition, Exhibit 15-6.

Appendix E: Collision Data

Primary Rd **AVENUE 280** *Distance (ft)* **1584** *Direction* **E** *Secondary Rd* **N MARIPOSA AVE** *NCIC* **9480** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Tulare** *Population* **9** *Rpt Dist* *Beat* **006** *Type* **3** *CalTrans* *Badge* **012900** *Collision Date* **20221207** *Time* **0615** *Day* **WED**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **SIDESWIPE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20221223**
Weather1 **CLOUDY** *Weather2* *Rdwy Surface* **WET** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DARK - NO** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	
1F	DRVR	71	M	H	HNBD		PROC ST	E	E	2235	RAM	2018	-	3	A	21650	-	M G
2	DRVR	36	M	H	HNBD		PROC ST	W	D	2200	TOYT	1997	-	3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS	MINOR	36	F	3	0	M	G

Primary Rd **AVENUE 280** *Distance (ft)* **1056** *Direction* **E** *Secondary Rd* **ROAD 140** *NCIC* **9480** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Tulare** *Population* **9** *Rpt Dist* *Beat* **006** *Type* **3** *CalTrans* *Badge* **020060** *Collision Date* **20221203** *Time* **2132** *Day* **SAT**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **AUTO/PED** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20221212**
Weather1 **RAINING** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **FELONY** *Motor Vehicle Involved With* **PED** *Lighting* **DARK - NO** *Ped Action* **IN RD,** *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	
1F	DRVR	998	-		IMP UNK	IMP UNK	UNS TURN	E	A	0100	CHEV		-	4	N		-	B B
2	PED	57	M	W	HNBD			-	N	6000	-		-	3	O		-	- -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PED	SERIOUS	57	M	0	-	-	-

Primary Rd **AVENUE 280** *Distance (ft)* **500.** *Direction* **E** *Secondary Rd* **ROAD 148** *NCIC* **9480** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Tulare** *Population* **9** *Rpt Dist* *Beat* **006** *Type* **3** *CalTrans* *Badge* **020837** *Collision Date* **20220415** *Time* **1735** *Day* **FRI**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20220418**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DUSK/DAWN** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	
1F	DRVR	48	M	H	HNBD		PROC ST	W	A	0700	DODG	2005	-	3	N		-	L G
2	DRVR	57	M	H	HNBD		SLOWING	W	A	0700	GMC	2004	-	3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	MINOR	48	M	1	0	L	G

Primary Rd **AVENUE 280** *Distance (ft)* **211.** *Direction* **E** *Secondary Rd* **ROAD 148** *NCIC* **9480** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Tulare** *Population* **9** *Rpt Dist* *Beat* **006** *Type* **3** *CalTrans* *Badge* **020612** *Collision Date* **20220914** *Time* **0105** *Day* **WED**
Primary Collision Factor **DRVR ALC/DRG** *Violation* **23152A** *Collision Type* **HIT OBJECT** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20220926**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **FIXED OBJ** *Lighting* **DARK - NO** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	
1F	DRVR	20	F	H	HBD-UI		RAN OFF RD	W	A	0800	DODG	2000	-	3	A	22107	-	M H

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	SERIOUS	20	F	1	1	M	H

Primary Rd **AVENUE 280** *Distance (ft)* **1584** *Direction* **W** *Secondary Rd* **ROAD 176** *NCIC* **9480** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Tulare** *Population* **9** *Rpt Dist* *Beat* **006** *Type* **3** *CalTrans* *Badge* **019697** *Collision Date* **20220523** *Time* **1735** *Day* **MON**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20220531**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip	
1F	DRVR	32	F	H	HNBD		PROC ST	W	A	0100	NISS	2015	-	3	N		-	L G
2	DRVR	32	M	W	HNBD		SLOWING	W	A	0700	TOYT	2007	-	3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

This report is accepted subject to the Terms of Use. Due to collision records processing backlogs, SWITRS data is typically seven months behind. Data requested for dates seven months prior to the current date will be incomplete.

Primary Rd **BURNETT ROAD** *Distance (ft)* **393.** *Direction* **S** *Secondary Rd* **AVENUE 152** *NCIC* **9480** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Tulare** *Population* **9** *Rpt Dist* *Beat* **003** *Type* **3** *CalTrans* *Badge* **017108** *Collision Date* **20220105** *Time* **1145** *Day* **WED**
Primary Collision Factor **R-O-W AUTO** *Violation* **21804A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20220111**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **CONS ZONE** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip		Ejected
1F	DRVR	61	M	H	HNBD		ENT TRAF	N	F	2600	FORD	2017	- 4	N		-	M	G	
2	DRVR	73	F	W	HNBD		PROC ST	N	A	0100	LEXS	2007	- 4	N		-	L	G	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP

Primary Rd **CABRILLO** *Distance (ft)* **156.** *Direction* **E** *Secondary Rd* **IRWIN** *NCIC* **5406** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Tulare** *County* **Tulare** *Population* **4** *Rpt Dist* **5406** *Beat* **0AO** *Type* **0** *CalTrans* *Badge* **63** *Collision Date* **20220217** *Time* **1008** *Day* **THU**
Primary Collision Factor **NOT DRIVER** *Violation* *Collision Type* **OTHER** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20220315**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **FIXED OBJ** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip		Ejected
1	DRVR	57	M	W	HNBD		STOPPED	E	A	0100	MACK	2018	- 3	N		-	M	G	
2	PRKD	998	-				PARKED	E	A	0100	-	2022	- -	-		-	-	-	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP

Primary Rd **CAJON AV** *Distance (ft)* **76.0** *Direction* *Secondary Rd* **PINE ST** *NCIC* **5408** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Woodlake** *County* **Tulare** *Population* **2** *Rpt Dist* **5408** *Beat* *Type* **0** *CalTrans* *Badge* **1952** *Collision Date* **20220822** *Time* **0909** *Day* **MON**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802A** *Collision Type* **HEAD-ON** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20230320**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **FIXED OBJ** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip		Ejected
1F	DRVR	18	M		HNBD		ENT TRAF	N	E	2232	FORD	2016	- 3	A	21802	-	L	G	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP

Primary Rd **CALDWELL** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **DEMAREE** *NCIC* **5407** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Visalia** *County* **Tulare** *Population* **5** *Rpt Dist* **480** *Beat* **012** *Type* **0** *CalTrans* *Badge* **A361** *Collision Date* **20220911** *Time* **0728** *Day* **SUN**
Primary Collision Factor **DRVR ALCIDRG** *Violation* **23152A** *Collision Type* **OVERTURNED** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20221021**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip		Ejected
1F	DRVR	21	M	H	HBD-UI		PROC ST	W	A	0100	-	2014	- 3	A	21453	-	L	G	
2	DRVR	65	M	W	HNBD		LFT TURN	E	D	2300	-	2019	- 3	-	-	-	L	G	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP

Primary Rd **CALDWELL** *Distance (ft)* **60.0** *Direction* **W** *Secondary Rd* **LOVERS LN** *NCIC* **5407** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Visalia** *County* **Tulare** *Population* **5** *Rpt Dist* **480** *Beat* **034** *Type* **0** *CalTrans* *Badge* **A321** *Collision Date* **20220101** *Time* **0448** *Day* **SAT**
Primary Collision Factor **DRVR ALCIDRG** *Violation* **23152A** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20220311**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **FIXED OBJ** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip		Ejected
1F	DRVR	61	M	H	HBD-UI		LFT TURN	S	A	0100	AUDI	2001	- -	A	21650	N	M	C	

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP

This report is accepted subject to the Terms of Use. Due to collision records processing backlogs, SWITRS data is typically seven months behind. Data requested for dates seven months prior to the current date will be incomplete.

Primary Rd **E BUENA VISTA AV** Distance (ft) **58.0** Direction **W** Secondary Rd **N EDISON ST** NCIC **5407** State Hwy? **N** Route Postmile Prefix Postmile Side of Hwy
City **Visalia** County **Tulare** Population **5** Rpt Dist **480** Beat **026** Type **0** CalTrans Badge **C60** Collision Date **20220713** Time **0613** Day **WED**
Primary Collision Factor **DRVR ALCIDRG** Violation **23152A** Collision Type **SIDESWIPE** Severity **PDO** #Killed **0** #Injured **0** Tow Away? **Y** Process Date **20220919**
Weather1 **CLEAR** Weather2 Rdwy Surface **DRY** Rdwy Cond1 **NO UNUSL CND** Rdwy Cond2 Spec Cond **0**
Hit and Run Motor Vehicle Involved With **PKD MV** Lighting **DAYLIGHT** Ped Action Cntrl Dev **NT PRS/FCTR** Loc Type Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	22	M	H	HBD-UI		LFT TURN	W	A	0100	FORD	1997	-	3	A	23103	-	M	F
2	PRKD	998	-				PARKED	-	A	0100	-	2011	-	-	-		-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		18	M	3	0	M	G
PASS		17	F	6	0	M	G
PASS		17	F	4	0	M	G

Primary Rd **E CALDWELL AV** Distance (ft) **360.** Direction **W** Secondary Rd **N VILLA ST** NCIC **5407** State Hwy? **N** Route Postmile Prefix Postmile Side of Hwy
City **Visalia** County **Tulare** Population **5** Rpt Dist **480** Beat **034** Type **0** CalTrans Badge **A339** Collision Date **20220205** Time **2118** Day **SAT**
Primary Collision Factor **WRONG SIDE** Violation **21650** Collision Type **BROADSIDE** Severity **PDO** #Killed **0** #Injured **0** Tow Away? **Y** Process Date **20220415**
Weather1 **CLEAR** Weather2 Rdwy Surface **DRY** Rdwy Cond1 **NO UNUSL CND** Rdwy Cond2 Spec Cond **0**
Hit and Run Motor Vehicle Involved With **PKD MV** Lighting **DARK - ST** Ped Action Cntrl Dev **NT PRS/FCTR** Loc Type Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	50	M	W	HNBD		PROC ST	W	A	0100	FORD	2012	-	3	A	22350	F	L	G
2	PRKD	998	-					W	-	0000	-	2022	-	-	-		-	-	-

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **E CALDWELL AV** Distance (ft) **0.00** Direction Secondary Rd **S BURKE ST** NCIC **5407** State Hwy? **N** Route Postmile Prefix Postmile Side of Hwy
City **Visalia** County **Tulare** Population **5** Rpt Dist **480** Beat **Q33** Type **0** CalTrans Badge **M292** Collision Date **20220916** Time **1159** Day **FRI**
Primary Collision Factor **DRVR ALCIDRG** Violation **23152B** Collision Type **HIT OBJECT** Severity **PDO** #Killed **0** #Injured **0** Tow Away? **Y** Process Date **20221017**
Weather1 **CLEAR** Weather2 Rdwy Surface **DRY** Rdwy Cond1 **NO UNUSL CND** Rdwy Cond2 Spec Cond **0**
Hit and Run Motor Vehicle Involved With **FIXED OBJ** Lighting **DAYLIGHT** Ped Action Cntrl Dev **FNCTNG** Loc Type Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	30	M		HBD-UI		PROC ST	E	A	0100	-	2019	-	-	-		M	B

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **E CALDWELL AV** Distance (ft) **0.00** Direction Secondary Rd **S COURT ST** NCIC **5407** State Hwy? **N** Route Postmile Prefix Postmile Side of Hwy
City **Visalia** County **Tulare** Population **5** Rpt Dist **480** Beat **034** Type **0** CalTrans Badge **C59** Collision Date **20220424** Time **1408** Day **SUN**
Primary Collision Factor **DRVR ALCIDRG** Violation **23152A** Collision Type **HEAD-ON** Severity **INJURY** #Killed **0** #Injured **1** Tow Away? **Y** Process Date **20220630**
Weather1 **CLEAR** Weather2 Rdwy Surface **DRY** Rdwy Cond1 **NO UNUSL CND** Rdwy Cond2 Spec Cond **0**
Hit and Run Motor Vehicle Involved With **OTHER MV** Lighting **DAYLIGHT** Ped Action Cntrl Dev **FNCTNG** Loc Type Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	45	M	B	HBD-UI		LFT TURN	S	A	0100	-	2007	-	3	A	21453	N	L	G
2	DRVR	40	M		HNBD		PROC ST	N	A	0100	FIAT	2012	-	3	N		-	L	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		998	F	3	0	L	G
DRVR	POSSIBL	40	M	1	0	L	G

Primary Rd **E CALDWELL AV** Distance (ft) **10.0** Direction **N** Secondary Rd **S LOVERS LN** NCIC **5407** State Hwy? **N** Route Postmile Prefix Postmile Side of Hwy
City **Visalia** County **Tulare** Population **5** Rpt Dist **480** Beat **Q34** Type **0** CalTrans Badge **M292** Collision Date **20221101** Time **1402** Day **TUE**
Primary Collision Factor **UNSAFE SPEED** Violation **22350** Collision Type **REAR END** Severity **INJURY** #Killed **0** #Injured **2** Tow Away? **Y** Process Date **20221215**
Weather1 **CLEAR** Weather2 Rdwy Surface **DRY** Rdwy Cond1 **NO UNUSL CND** Rdwy Cond2 Spec Cond **0**
Hit and Run Motor Vehicle Involved With **OTHER MV** Lighting **DAYLIGHT** Ped Action Cntrl Dev **FNCTNG** Loc Type Ramp/Int

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety	Equip
1F	DRVR	78	M		HNBD		PROC ST	S	F	2600	-	1999	-	-	N		-	M	G
2	DRVR	64	F		HNBD		STOPPED	S	F	2600	-	2016	-	-	N		-	M	G
3	DRVR	35	F		HNBD		STOPPED	S	A	0700	-	2021	-	-	N		-	M	G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS	MINOR	53	F	3	0	M	G
DRVR	MINOR	35	F	1	0	M	G

This report is accepted subject to the Terms of Use. Due to collision records processing backlogs, SWITRS data is typically seven months behind. Data requested for dates seven months prior to the current date will be incomplete.

Primary Rd **LOVERS LN** *Distance (ft)* **480.** *Direction* **S** *Secondary Rd* **E NOBLE AV** *NCIC* **5407** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Visalia** *County* **Tulare** *Population* **5** *Rpt Dist* **480** *Beat* **033** *Type* **0** *CalTrans* *Badge* **C59** *Collision Date* **20220418** *Time* **1413** *Day* **MON**
Primary Collision Factor **NOT DRIVER** *Violation* *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20220615**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **SLIPPERY** *Rdwy Cond1* **OTHER** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1	DRVR	46	F		HNBD		RGT TURN	N	A	0100	-	2019	- -	N		-	M G
2	DRVR	31	M	A	HNBD		PROC ST	N	A	0100	-	2014	- -	N		-	L G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	COMP PN	46	F	1	0	M	G

Primary Rd **LOVERS LN** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **MINERAL KING** *NCIC* **5407** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Visalia** *County* **Tulare** *Population* **5** *Rpt Dist* **480** *Beat* **026** *Type* **0** *CalTrans* *Badge* **A343** *Collision Date* **20220917** *Time* **1013** *Day* **SAT**
Primary Collision Factor **DRVR ALCIDRG** *Violation* **23152A** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20221122**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	31	M	H	HBD-UI		PROC ST	S	A	0100	-	2013	- 3	-		-	M B
2	DRVR	34	M	W	HNBD		STOPPED	S	A	0100	-	2016	- 3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **LOVERS LN** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **NOBLE** *NCIC* **5407** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Visalia** *County* **Tulare** *Population* **5** *Rpt Dist* **480** *Beat* **026** *Type* **0** *CalTrans* *Badge* **A353** *Collision Date* **20220129** *Time* **2240** *Day* **SAT**
Primary Collision Factor **STOP SGNISIG** *Violation* **21453A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20220309**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	54	F		HNBD		PROC ST	N	A	0100	JEEP	2004	- -	F		-	- -
2	DRVR	32	M	H	HNBD		PROC ST	E	A	0100	-	2012	- -	N		-	- -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS	COMP PN	30	F	2	0	N	F

Primary Rd **LOVERS LN** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **WALNUT AV** *NCIC* **5407** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Visalia** *County* **Tulare** *Population* **5** *Rpt Dist* **480** *Beat* **034** *Type* **0** *CalTrans* *Badge* **A339** *Collision Date* **20220806** *Time* **2142** *Day* **SAT**
Primary Collision Factor **DRVR ALCIDRG** *Violation* **23152A** *Collision Type* **HEAD-ON** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20220919**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	41	M	H	HBD-UI		LFT TURN	S	A	0100	-	2018	- 3	A	23152	-	L G
2	DRVR	23	M	W	HNBD		PROC ST	N	A	0100	-	2006	- 3	N		-	L G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **LYNCH DRIVE** *Distance (ft)* **34.0** *Direction* **S** *Secondary Rd* **ROAD 256** *NCIC* **9481** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Tulare** *Population* **9** *Rpt Dist* *Beat* **020** *Type* **3** *CalTrans* *Badge* **018029** *Collision Date* **20220916** *Time* **1610** *Day* **FRI**
Primary Collision Factor **IMPROP TURN** *Violation* **22107** *Collision Type* **HIT OBJECT** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20220927**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **FIXED OBJ** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	24	F	H	HNBD		RAN OFF RD	N	A	0100	CHEV	2013	- 3	N		-	L G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	MINOR	24	F	1	0	L	G

This report is accepted subject to the Terms of Use. Due to collision records processing backlogs, SWITRS data is typically seven months behind. Data requested for dates seven months prior to the current date will be incomplete.

Primary Rd **ROAD 144** *Distance (ft)* **25.0** *Direction* **N** *Secondary Rd* **AVENUE 8** *NCIC* **9480** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Tulare** *Population* **9** *Rpt Dist* *Beat* **005** *Type* **3** *CalTrans* *Badge* **020837** *Collision Date* **20220818** *Time* **1615** *Day* **THU**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20220822**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	51	M	H	HNBD		PROC ST	S	D	2200	TOYT	1989	- 3	N		-	P G
2	DRVR	28	M	H	HNBD		STOPPED	S	D	2200	GMC	2005	- 3	N		-	M G
3	DRVR	30	F	W	HNBD		STOPPED	S	A	0700	TOYT	2019	- 3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **ROAD 144** *Distance (ft)* **2640** *Direction* **N** *Secondary Rd* **STATE ROUTE 201** *NCIC* **9480** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Tulare** *Population* **9** *Rpt Dist* *Beat* **002** *Type* **3** *CalTrans* *Badge* **018521** *Collision Date* **20220407** *Time* **1656** *Day* **THU**
Primary Collision Factor **DRVR ALCIDRG** *Violation* **23152A** *Collision Type* **HEAD-ON** *Severity* **FATAL** *#Killed* **1** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20220603**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **FELONY** *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	41	M	H	HBD-UI		OPPOS LN	S	A	0100	HOND	2007	- 4	A	22107	M	L G
2	DRVR	67	M	H	HNBD		PROC ST	N	A	0100	HOND	2001	- 3	N		-	L G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	KILLED	42	M	1	0	L	G
DRVR	POSSIBL	67	M	1	0	L	G

Primary Rd **ROAD 148** *Distance (ft)* **3.00** *Direction* **N** *Secondary Rd* **AVENUE 280** *NCIC* **9480** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Tulare** *Population* **9** *Rpt Dist* *Beat* **006** *Type* **3** *CalTrans* *Badge* **017108** *Collision Date* **20220213** *Time* **1420** *Day* **SUN**
Primary Collision Factor **STOP SGNISIG** *Violation* **22450A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20220223**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	38	F	W	HNBD		PROC ST	N	A	0700	TOYT	2003	- 4	N		-	M G
2	DRVR	38	M	H	HNBD		PROC ST	W	D	2200	CHEV	1991	- 4	N		-	P G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	POSSIBL	38	M	1	0	P	G

Primary Rd **ROAD 148** *Distance (ft)* **1056** *Direction* **N** *Secondary Rd* **AVENUE 280** *NCIC* **9480** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Tulare** *Population* **9** *Rpt Dist* *Beat* **006** *Type* **3** *CalTrans* *Badge* **012900** *Collision Date* **20220315** *Time* **0655** *Day* **TUE**
Primary Collision Factor **R-O-W AUTO** *Violation* **21801A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20220316**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DUSK/DAWN** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	69	M	W	HNBD		LFT TURN	N	D	2200	RAM	2022	- 3	N		-	M G
2	DRVR	26	F	H	HNBD		PROC ST	S	A	0100	TOYT	2004	- 3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **ROAD 148** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **AVENUE 280** *NCIC* **9480** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **UNINCORP.** *County* **Tulare** *Population* **9** *Rpt Dist* *Beat* **006** *Type* **3** *CalTrans* *Badge* **019427** *Collision Date* **20220406** *Time* **1812** *Day* **WED**
Primary Collision Factor **DRVR ALCIDRG** *Violation* **23152A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **4** *Tow Away?* **N** *Process Date* **20220418**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **TRAIN** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	51	M	W	HBD-UI		PROC ST	S	A	0700	CHEV	2003	- 3	A	22450	-	M G
2	DRVR	61	M	W	HNBD		PROC ST	E	D	2200	DODG	1998	- 3	N		-	M H
3	DRVR	43	F	W	HNBD		STOPPED	N	A	0100	FORD	2005	- 3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	SERIOUS	51	M	1	0	M	G
PASS	MINOR	50	M	3	0	M	G
DRVR	POSSIBL	43	F	1	0	M	G

This report is accepted subject to the Terms of Use. Due to collision records processing backlogs, SWITRS data is typically seven months behind. Data requested for dates seven months prior to the current date will be incomplete.

Primary Rd **S LOVERS LN** *Distance (ft)* **23.0** *Direction* **S** *Secondary Rd* **E NOBLE AV** *NCIC* **5407** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Visalia** *County* **Tulare** *Population* **5** *Rpt Dist* **480** *Beat* **P33** *Type* **0** *CalTrans* *Badge* **M333** *Collision Date* **20220301** *Time* **0913** *Day* **TUE**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20220420**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info																	Victim Info							
Party	*Type*	*Age*	*Sex*	*Race*	*Sobriety1*	*Sobriety2*	*Move Pre*	*Dir*	*SW Veh*	*CHP Veh*	*Make*	*Year*	*SP Info*	*OAF1*	*Viol*	*OAF2*	*Safety Equip*	*ROLE*	*Ext Of Inj*	*AGE*	*Sex*	*Seat Pos*	*Safety*	*EQUIP*	*Ejected*
1F	DRVR	36	M	W	HNBD		PROC ST	N	A	0700	-	2000	- 3	N		-	M G								
2	DRVR	45	F	H	HNBD		STOPPED	N	-	0000	-	2012	- 3	N		-	M G								

Primary Rd **S LOVERS LN** *Distance (ft)* **190.** *Direction* **S** *Secondary Rd* **E NOBLE AV** *NCIC* **5407** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Visalia** *County* **Tulare** *Population* **5** *Rpt Dist* **480** *Beat* **P33** *Type* **0** *CalTrans* *Badge* **C60** *Collision Date* **20220324** *Time* **1728** *Day* **THU**
Primary Collision Factor **R-O-W AUTO** *Violation* **21804A** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20220524**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info																	Victim Info							
Party	*Type*	*Age*	*Sex*	*Race*	*Sobriety1*	*Sobriety2*	*Move Pre*	*Dir*	*SW Veh*	*CHP Veh*	*Make*	*Year*	*SP Info*	*OAF1*	*Viol*	*OAF2*	*Safety Equip*	*ROLE*	*Ext Of Inj*	*AGE*	*Sex*	*Seat Pos*	*Safety*	*EQUIP*	*Ejected*
1F	DRVR	26	M	H	HNBD		ENT TRAF	N	A	0100	-	2000	- 3	N		-	M G								
2	DRVR	26	M	H	HNBD		PROC ST	N	J	4800	-	2019	- 3	N		-	M G	PASS		28	F	-	-	-	-

Primary Rd **S LOVERS LN** *Distance (ft)* **132.** *Direction* **S** *Secondary Rd* **E NOBLE AV** *NCIC* **5407** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Visalia** *County* **Tulare** *Population* **5** *Rpt Dist* **480** *Beat* **033** *Type* **0** *CalTrans* *Badge* **M226** *Collision Date* **20221213** *Time* **1407** *Day* **TUE**
Primary Collision Factor **STRTNG\|BCKNG** *Violation* **22106** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20230127**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info																	Victim Info							
Party	*Type*	*Age*	*Sex*	*Race*	*Sobriety1*	*Sobriety2*	*Move Pre*	*Dir*	*SW Veh*	*CHP Veh*	*Make*	*Year*	*SP Info*	*OAF1*	*Viol*	*OAF2*	*Safety Equip*	*ROLE*	*Ext Of Inj*	*AGE*	*Sex*	*Seat Pos*	*Safety*	*EQUIP*	*Ejected*
1F	DRVR	46	M	W	HNBD		PROC ST	N	A	0700	-	2015	- 3	N		-	M G								
2	DRVR	50	M	H	HNBD		STOPPED	N	D	2200	-	2003	- 3	N		-	M G								

Primary Rd **S LOVERS LN** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **EAST K ST** *NCIC* **5407** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Visalia** *County* **Tulare** *Population* **5** *Rpt Dist* **480** *Beat* *Type* **0** *CalTrans* *Badge* **C59** *Collision Date* **20220507** *Time* **1333** *Day* **SAT**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **Y** *Process Date* **20220630**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info																	Victim Info							
Party	*Type*	*Age*	*Sex*	*Race*	*Sobriety1*	*Sobriety2*	*Move Pre*	*Dir*	*SW Veh*	*CHP Veh*	*Make*	*Year*	*SP Info*	*OAF1*	*Viol*	*OAF2*	*Safety Equip*	*ROLE*	*Ext Of Inj*	*AGE*	*Sex*	*Seat Pos*	*Safety*	*EQUIP*	*Ejected*
1F	DRVR	998	M	H	HNBD		LFT TURN	E	A	0100	FORD	2014	- 3	N		-	L G	DRVR	MINOR	998	M	1	0	L	G
2	DRVR	25	F		HNBD		PROC ST	S	A	0100	-	2014	- 3	N		-	L G	DRVR	MINOR	25	F	1	0	L	G

Primary Rd **S LOVERS LN** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **K AV** *NCIC* **5407** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Visalia** *County* **Tulare** *Population* **5** *Rpt Dist* **480** *Beat* **034** *Type* **0** *CalTrans* *Badge* **A251** *Collision Date* **20220908** *Time* **2042** *Day* **THU**
Primary Collision Factor **R-O-W AUTO** *Violation* **21800B** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20221017**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info																	Victim Info							
Party	*Type*	*Age*	*Sex*	*Race*	*Sobriety1*	*Sobriety2*	*Move Pre*	*Dir*	*SW Veh*	*CHP Veh*	*Make*	*Year*	*SP Info*	*OAF1*	*Viol*	*OAF2*	*Safety Equip*	*ROLE*	*Ext Of Inj*	*AGE*	*Sex*	*Seat Pos*	*Safety*	*EQUIP*	*Ejected*
1F	DRVR	22	F	H	HNBD		LFT TURN	E	A	0100	-	2011	- 3	F		-	L G	PASS		21	F	2	0	M	G
2	DRVR	46	F		HNBD		PROC ST	S	A	0100	JEEP	2015	- 3	N		-	M G								

This report is accepted subject to the Terms of Use. Due to collision records processing backlogs, SWITRS data is typically seven months behind. Data requested for dates seven months prior to the current date will be incomplete.

Primary Rd **S LOVERS LN** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **EAST K ST** *NCIC* **5407** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Visalia** *County* **Tulare** *Population* **5** *Rpt Dist* **480** *Beat* *Type* **0** *CalTrans* *Badge* **C59** *Collision Date* **20220507** *Time* **1333** *Day* **SAT**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **2** *Tow Away?* **Y** *Process Date* **20220630**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip								
1F	DRVR	998	M	H	HNBD		LFT TURN	E	A	0100	FORD	2014	- 3	N		-	L G								
2	DRVR	25	F		HNBD		PROC ST	S	A	0100	-	2014	- 3	N		-	L G								

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	MINOR	998	M	1	0	L	G
DRVR	MINOR	25	F	1	0	L	G

Primary Rd **S LOVERS LN** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **K AV** *NCIC* **5407** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Visalia** *County* **Tulare** *Population* **5** *Rpt Dist* **480** *Beat* **034** *Type* **0** *CalTrans* *Badge* **A251** *Collision Date* **20220908** *Time* **2042** *Day* **THU**
Primary Collision Factor **R-O-W AUTO** *Violation* **21800B** *Collision Type* **SIDESWIPE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20221017**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip								
1F	DRVR	22	F	H	HNBD		LFT TURN	E	A	0100	-	2011	- 3	F		-	L G								
2	DRVR	46	F		HNBD		PROC ST	S	A	0100	JEEP	2015	- 3	N		-	M G								

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		21	F	2	0	M	G

Primary Rd **S MADSEN ST** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **W WALNUT AV** *NCIC* **5407** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Visalia** *County* **Tulare** *Population* **5** *Rpt Dist* **480** *Beat* **R12** *Type* **0** *CalTrans* *Badge* **C56** *Collision Date* **20221031** *Time* **1235** *Day* **MON**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802A** *Collision Type* **OTHER** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20221208**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **BICYCLE** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip								
1F	DRVR	75	M	W	HNBD		RGT TURN	S	A	0100	FORD	2011	- 3	N		-	M G								
2	BICY	93	M	A	HNBD		PROC ST	E	L	0400	-		- 3	N		-	- -								

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
BICY	POSSIBL	93	M	0	0	P	V

Primary Rd **S MC AULIFF ST** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **E WALNUT** *NCIC* **5407** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Visalia** *County* **Tulare** *Population* **5** *Rpt Dist* **480** *Beat* *Type* **0** *CalTrans* *Badge* **C59** *Collision Date* **20220613** *Time* **1625** *Day* **MON**
Primary Collision Factor **STOP SGNISIG** *Violation* **22450A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20220915**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip								
1F	DRVR	42	M	H	HNBD		PROC ST	S	F	2600	-	2012	- 3	N		-	L G								
2	DRVR	22	F		HNBD		PROC ST	W	A	0100	-	2018	- 3	N		-	- -								

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS	COMP PN	998	M	4	0	L	G

Primary Rd **S MOONEY BL** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **AVE 272** *NCIC* **5407** *State Hwy?* **Y** *Route* **63** *Postmile Prefix* **-** *Postmile* **5.011** *Side of Hwy* **N**
City **Visalia** *County* **Tulare** *Population* **5** *Rpt Dist* **480** *Beat* **R12** *Type* **0** *CalTrans* **6** *Badge* **C56** *Collision Date* **20221103** *Time* **1451** *Day* **THU**
Primary Collision Factor **R-O-W AUTO** *Violation* **21802A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **Y** *Process Date* **20221223**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* **I** *Ramp/Int* **5**

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip								
1F	DRVR	41	F	W	HNBD		PROC ST	E	A	0100	-	2007	- -	N		-	B H								
2	DRVR	33	M	W	HBD-UI		PROC ST	N	D	2200	-	2006	- -	N		-	L G								

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
DRVR	SERIOUS	41	F	1	0	L	H

This report is accepted subject to the Terms of Use. Due to collision records processing backlogs, SWITRS data is typically seven months behind. Data requested for dates seven months prior to the current date will be incomplete.

Primary Rd **S MT VERNON AV** *Distance (ft)* **38.0** *Direction* **N** *Secondary Rd* **W APIA ST** *NCIC* **5404** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Lindsay** *County* **Tulare** *Population* **2** *Rpt Dist* **5404** *Beat* **017** *Type* **0** *CalTrans* *Badge* **677** *Collision Date* **20220717** *Time* **0913** *Day* **SUN**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **REAR END** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20220816**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **PKD MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	58	M	W	HNBD		PROC ST	S	D	2200	-	2002	- 3	F		-	M G
2	PRKD	998	-				PARKED	-	-	0031	-		- 3	-		-	- -

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **S OAK VIEW** *Distance (ft)* **51.0** *Direction* **S** *Secondary Rd* **W JAMES** *NCIC* **5407** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Visalia** *County* **Tulare** *Population* **5** *Rpt Dist* **480** *Beat* **Q34** *Type* **0** *CalTrans* *Badge* **A366** *Collision Date* **20220228** *Time* **2145** *Day* **MON**
Primary Collision Factor **UNSAFE SPEED** *Violation* **22350** *Collision Type* **HIT OBJECT** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20220415**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *Motor Vehicle Involved With* **FIXED OBJ** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **NT PRS/FCTR** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	998	-		IMP UNK	IMP UNK	PROC ST	S	A	0100	-	2014	- -	N		-	M B

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **S OAK VIEW** *Distance (ft)* **12.0** *Direction* **S** *Secondary Rd* **W JAMES** *NCIC* **5407** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Visalia** *County* **Tulare** *Population* **5** *Rpt Dist* **480** *Beat* **034** *Type* **0** *CalTrans* *Badge* **M194** *Collision Date* **20220302** *Time* **0913** *Day* **WED**
Primary Collision Factor **IMPROP TURN** *Violation* **22103** *Collision Type* **BROADSIDE** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **N** *Process Date* **20220420**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run **MSDMNR** *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	31	M	B	HNBD		U-TURN	S	A	0100	-	2011	- 3	N		-	M G
2	DRVR	47	F		HNBD		PROC ST	S	A	0700	-	2017	- 3	N		-	M G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected

Primary Rd **S PINKHAM ST** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **E K RD** *NCIC* **5407** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Visalia** *County* **Tulare** *Population* **5** *Rpt Dist* **480** *Beat* **034** *Type* **0** *CalTrans* *Badge* **11895** *Collision Date* **20221014** *Time* **0713** *Day* **FRI**
Primary Collision Factor **STOP SGNISIG** *Violation* **22450A** *Collision Type* **BROADSIDE** *Severity* **INJURY** *#Killed* **0** *#Injured* **1** *Tow Away?* **N** *Process Date* **20221206**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DAYLIGHT** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	73	F	H	HNBD		PROC ST	S	A	0700	JEEP	2015	- 3	N		-	M G
2	DRVR	21	M	H	HNBD		PROC ST	N	A	0700	-	2011	- 3	N		-	L G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS	MINOR	20	F	3	0	L	G

Primary Rd **S PINKHAM ST** *Distance (ft)* **0.00** *Direction* *Secondary Rd* **WALNUT AV** *NCIC* **5407** *State Hwy?* **N** *Route* *Postmile Prefix* *Postmile* *Side of Hwy*
City **Visalia** *County* **Tulare** *Population* **5** *Rpt Dist* **480** *Beat* **034** *Type* **0** *CalTrans* *Badge* **12389** *Collision Date* **20220601** *Time* **2143** *Day* **WED**
Primary Collision Factor **OTHER HAZ** *Violation* **21451A** *Collision Type* **HEAD-ON** *Severity* **PDO** *#Killed* **0** *#Injured* **0** *Tow Away?* **Y** *Process Date* **20220629**
Weather1 **CLEAR** *Weather2* *Rdwy Surface* **DRY** *Rdwy Cond1* **NO UNUSL CND** *Rdwy Cond2* *Spec Cond* **0**
Hit and Run *Motor Vehicle Involved With* **OTHER MV** *Lighting* **DARK - ST** *Ped Action* *Cntrl Dev* **FNCTNG** *Loc Type* *Ramp/Int*

Party Info

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre	Dir	SW Veh	CHP Veh	Make	Year	SP Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	998	M	H	HNBD		LFT TURN	N	A	0100	-	2008	- 3	N		-	L G
2	DRVR	49	F	H	HNBD		PROC ST	S	A	0700	-	2004	- 3	N		-	L G

Victim Info

ROLE	Ext Of Inj	AGE	Sex	Seat Pos	Safety	EQUIP	Ejected
PASS		49	F	4	0	L	G

This report is accepted subject to the Terms of Use. Due to collision records processing backlogs, SWITRS data is typically seven months behind. Data requested for dates seven months prior to the current date will be incomplete.

Primary Rd S LOVER LN Distance(ft) I Direction Secondary Rd E WALNUT AV NCIC 5407 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City VISALIA County TULARE Population 5 Rpt Dist 480 Beat Q34 Type CalTrans Dist Badge M333 Crash Date 20230206 Time 1154 Day MON
Primary Crash Factor STOP SGNISIG Violation 21453A Crash Type BROADSIDE Severity INJURY # Killed 0 # Injured 2 Tow Away? Y Process Date 20230410
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run Motor Veh Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev FNCTNG Loc Type Ramp/Int
Latitude Longitude Local Rpt # 23-010626 Case ID 9560207

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1 Viol	OAF2	Safety Equip
1F	DRVR	18	M		HNBD		PROC ST	N	A	0100	-	2007	- 3	N	-	L G
2	DRVR	36	M		HNBD		PROC ST	E	A	0100	-	2012	- 3	N	-	L G

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected
DRVR	MINOR	18	M	1	L G	0
PASS		23	F	3	L G	0
DRVR	POSSIBLE	36	M	1	L G	0

Primary Rd HAWAII ST Distance(ft) I Direction Secondary Rd SCHOOL AV NCIC 5405 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City PORTERVILLE County TULARE Population 4 Rpt Dist SEC1 Beat Type CalTrans Dist Badge 268 Crash Date 20230206 Time 1208 Day MON
Primary Crash Factor R-O-W AUTO Violation 21800B Crash Type BROADSIDE Severity PDO # Killed 0 # Injured 0 Tow Away? N Process Date 20230317
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run Motor Veh Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int
Latitude 36.07472 Longitude 119.02413 Local Rpt # 23P05921 Case ID 9548116

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1 Viol	OAF2	Safety Equip
1F	DRVR	22	F	O	HNBD		PROC ST	E	A	0100	-	2020	- 3	N	-	M G
2	DRVR	59	M	W	HNBD		PROC ST	N	I	1100	-	2017	- 3	N	-	M G

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected

Primary Rd STATE ROUTE 65 Distance(ft) 700 Direction S Secondary Rd AVENUE 268 NCIC 9480 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy
City UNINCORPORATED County TULARE Population 9 Rpt Dist Beat 065 Type 1 CalTrans Dist Badge 016995 Crash Date 20230206 Time 1410 Day MON
Primary Crash Factor UNSAFE SPEED Violation 22350 Crash Type REAR END Severity INJURY # Killed 0 # Injured 2 Tow Away? Y Process Date 20230214
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run Motor Veh Involved With OTHER MV, ADD Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int
Latitude 36.27156 Longitude 119.13623 Local Rpt # 9480-2023-00263 Case ID 91994370

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1 Viol	OAF2	Safety Equip
1F	DRVR	35	M	H	HNBD		PROC ST	N	D	2200	CHEV	2016	- 3	N	-	M G
2	DRVR	54	M	H	HNBD		STOPPED	N	A	0100	SCIO	2005	- 3	N	-	M G
3	DRVR	58	M	W	HNBD		PROC ST	S	D	2200	DODG	2003	- -	N	-	M G

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected
DRVR	POSSIBLE	35	M	1	M G	0
DRVR	POSSIBLE	54	M	1	M G	0

Primary Rd MIRAGE | Distance(ft) 15 | Direction W | Secondary Rd VALENCIA BL | NCIC 5404 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy

City LINDSAY | County TULARE | Population 2 | Rpt Dist 21L | Beat | Type | CalTrans Dist | Badge 670 | Crash Date 20230407 | Time 0733 | Day FRI

Primary Crash Factor R-O-W AUTO | Violation 21802A | Crash Type BROADSIDE | Severity INJURY | # Killed 0 | # Injured 1 | Tow Away? Y | Process Date 20230523

Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0

Hit and Run | Motor Veh Involved With OTHER MV | Lighting DAYLIGHT | Ped Action | Cntrl Dev FNCTNG | Loc Type | Ramp/Int

Latitude | Longitude | Local Rpt # 23L-00539 | Case ID 9567121

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1 Viol	OAF2	Safety Equip
1F	DRVR	80	M	H	HNBD		ENT TRAF	E	D	2200	-	2011	- 3	N	-	G M
2	DRVR	59	M	B	HNBD		PROC ST	N	A	0100	-	2009	- 3	N	-	L G
3	DRVR	41	M	H	HNBD		STOPPED	W	D	2200	-	2017	- -	N	-	G M

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected
DRVR	OTH VIS	59	-	1	L G	-

Primary Rd AVENUE 280 | Distance(ft) 110 | Direction E | Secondary Rd ROAD 148 | NCIC 9480 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy

City UNINCORPORATED | County TULARE | Population 9 | Rpt Dist | Beat 006 | Type 3 | CalTrans Dist | Badge 013914 | Crash Date 20230407 | Time 1018 | Day FRI

Primary Crash Factor UNSAFE SPEED | Violation 22350 | Crash Type REAR END | Severity INJURY | # Killed 0 | # Injured 1 | Tow Away? Y | Process Date 20230412

Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0

Hit and Run | Motor Veh Involved With OTHER MV | Lighting DAYLIGHT | Ped Action | Cntrl Dev NT PRS/FCTR | Loc Type | Ramp/Int

Latitude 36.29818 | Longitude 119.24266 | Local Rpt # 9480-2023-00714 | Case ID 92043255

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1 Viol	OAF2	Safety Equip
1F	DRVR	68	F	W	HNBD		PROC ST	W	A	0800	DODG	1999	- 3	N	-	L H
2	DRVR	22	F	H	HNBD		STOPPED	W	A	0100	HOND	2008	- 3	N	-	M G
3	DRVR	73	F	W	HNBD		STOPPED	W	A	0100	TOYT	2008	- 3	N	-	M G
4	DRVR	73	F	W	HNBD		STOPPED	W	A	0100	TOYT	2014	- 4	N	-	M G
5	DRVR	47	F	O	HNBD		STOPPED	W	A	0700	TOYT	2019	- 4	N	-	M G

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected
DRVR	MINOR	68	F	1	L H	0

Primary Rd ROAD 112 | Distance(ft) I | Direction | Secondary Rd AVENUE 184 | NCIC 9480 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy

City UNINCORPORATED | County TULARE | Population 9 | Rpt Dist | Beat 006 | Type 3 | CalTrans Dist | Badge 017108 | Crash Date 20230407 | Time 1225 | Day FRI

Primary Crash Factor R-O-W AUTO | Violation 21802A | Crash Type BROADSIDE | Severity PDO | # Killed 0 | # Injured 0 | Tow Away? Y | Process Date 20230412

Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0

Hit and Run | Motor Veh Involved With OTHER MV | Lighting DAYLIGHT | Ped Action | Cntrl Dev FNCTNG | Loc Type | Ramp/Int

Latitude 36.12380 | Longitude 119.32187 | Local Rpt # 9480-2023-00719 | Case ID 92042944

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1 Viol	OAF2	Safety Equip
1F	DRVR	22	F	H	HNBD		LFT TURN	S	A	0100	LEXS	2010	- 4	N	-	L G
2	DRVR	37	M	H	HNBD		PROC ST	W	G	2646	FORD	2016	- 4	N	-	M G

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected

Primary Rd S LOVERS LN Distance(ft) I Direction Secondary Rd E SUNNYSIDE AV NCIC 5407 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City VISALIA County TULARE Population 5 Rpt Dist 480 Beat Type CalTrans Dist Badge M293 Crash Date 20230414 Time 0730 Day FRI
Primary Crash Factor R-O-W AUTO Violation 21802A Crash Type BROADSIDE Severity INJURY # Killed 0 # Injured 2 Tow Away? Y Process Date 20230608
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run Motor Veh Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev FNCTNG Loc Type Ramp/Int
Latitude Longitude Local Rpt # 23-030801 Case ID 9566946

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1 Viol	OAF2	Safety Equip
1F	DRVR	38	F	W	HNBD		LFT TURN	E	A	0100	-	2021	- 3	N	-	L G
2	DRVR	45	M		HNBD		PROC ST	S	A	0100	-	2019	- 3	N	-	L -

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected
DRVR	SERIOUS	38	F	1	L G	0
DRVR	POSSIBLE	45	M	1	L G	0

Primary Rd PROSPERITY AVE. Distance(ft) 410 Direction W Secondary Rd COLPIEN RD. NCIC 9480 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City UNINCORPORATED County TULARE Population 9 Rpt Dist Beat 003 Type 3 CalTrans Dist Badge 017713 Crash Date 20230414 Time 0747 Day FRI
Primary Crash Factor UNSAFE SPEED Violation 22350 Crash Type HIT OBJECT Severity INJURY # Killed 0 # Injured 1 Tow Away? N Process Date 20230418
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run Motor Veh Involved With NON-CLSN Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int
Latitude 36.22550 Longitude 119.39501 Local Rpt # 9480-2023-00767 Case ID 92047779

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1 Viol	OAF2	Safety Equip
1F	DRVR	76	M	H	HNBD		PROC ST	W	A	0100	NISS	2019	- 3	A 22107	-	L G

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected
DRVR	MINOR	76	M	1	L G	0

Primary Rd MORTON AV Distance(ft) I Direction Secondary Rd ARGYLE ST NCIC 5405 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City PORTERVILLE County TULARE Population 4 Rpt Dist SEC 1 Beat 001 Type CalTrans Dist Badge 296 Crash Date 20230414 Time 0752 Day FRI
Primary Crash Factor R-O-W AUTO Violation 21802A Crash Type HEAD-ON Severity PDO # Killed 0 # Injured 0 Tow Away? Y Process Date 20230516
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run Motor Veh Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int
Latitude 36.07335 Longitude 119.06485 Local Rpt # 23P15948 Case ID 9567107

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1 Viol	OAF2	Safety Equip
1F	DRVR	42	F	W	HNBD		LFT TURN	N	D	2200	-	2013	- 3	N	-	M G
2	DRVR	31	F	O	HNBD		PROC ST	E	A	0700	-	2023	- 3	N	-	L G
3	PRKD	998	-				PARKED	W	A	0700	-	2002	- -	N	-	- -

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected
PASS		11	M	3	M G	0
PASS		13	F	6	M G	0
PASS		10	M	4	M G	0

Primary Rd NOBLE AV | Distance(ft) 180 | Direction E | Secondary Rd WATSON ST | NCIC 5407 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City VISALIA | County TULARE | Population 5 | Rpt Dist 480 | Beat P33 | Type | CalTrans Dist | Badge A349 | Crash Date 20231118 | Time 2115 | Day SAT
Primary Crash Factor DRVR ALCIDRG | Violation 23152B | Crash Type HEAD-ON | Severity PDO | # Killed 0 | # Injured 0 | Tow Away? Y | Process Date 20240311
Weather1 CLOUDY | Weather2 | Rdwy Surface WET | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Veh Involved With FIXED OBJ | Lighting DARK - ST LTS | Ped Action | Cntrl Dev FNCTNG | Loc Type | Ramp/Int
Latitude | Longitude | Local Rpt # 23-098531 | Case ID 9678881

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	30	M	H	HBD-UI		RGT TURN	E	A	0100	-	2018	-	-	-	-	M G

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected

Primary Rd SPRINGVILLE AVENUE | Distance(ft) 295 | Direction E | Secondary Rd ALTA VISTA AVENUE | NCIC 9481 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City UNINCORPORATED | County TULARE | Population 9 | Rpt Dist | Beat 050 | Type 3 | CalTrans Dist | Badge 019578 | Crash Date 20231118 | Time 2500 | Day SAT
Primary Crash Factor IMPROP TURN | Violation 22107 | Crash Type SIDESWIPE | Severity PDO | # Killed 0 | # Injured 0 | Tow Away? N | Process Date 20231122
Weather1 CLOUDY | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run MISDEMEANOR | Motor Veh Involved With PKD MV | Lighting DARK - NO ST LTS | Ped Action | Cntrl Dev NT PRS/FCTR | Loc Type | Ramp/Int
Latitude 36.05511 | Longitude 118.96948 | Local Rpt # 9481-2023-00759 | Case ID 92242584

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	998	-		IMP UNK	IMP UNK	UNS TURN	E	-	9900	-	-	4	N		-	B B
2	PRKD	998	-				PARKED	E	A	0700	JEEP	2019	-	4	N	-	- -

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected

Primary Rd E WALNUT AVE | Distance(ft) 0 | Direction E | Secondary Rd S LOVERS LANE | NCIC 5407 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City VISALIA | County TULARE | Population 5 | Rpt Dist 480 | Beat Q34 | Type | CalTrans Dist | Badge A349 | Crash Date 20231119 | Time 0220 | Day SUN
Primary Crash Factor DRVR ALCIDRG | Violation 23153B | Crash Type REAR END | Severity INJURY | # Killed 0 | # Injured 1 | Tow Away? Y | Process Date 20240217
Weather1 CLEAR | Weather2 | Rdwy Surface WET | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Veh Involved With OTHER MV | Lighting DARK - ST LTS | Ped Action | Cntrl Dev FNCTNG | Loc Type | Ramp/Int
Latitude 36.31269 | Longitude 119.26056 | Local Rpt # 23-098600 | Case ID 9599204

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	32	M	H	HBD-UI		PROC ST	W	A	0100	-	2017	-	-	-	-	L G
2	DRVR	64	M	H	HNBD		PROC ST	W	D	2200	-	2009	-	-	-	-	L G

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected
DRVR	MINOR	64	M	1	L G	0

Primary Rd ROAD 124 | Distance(ft) 232 | Direction S | Secondary Rd AVENUE 128 | NCIC 9480 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City UNINCORPORATED | County TULARE | Population 9 | Rpt Dist | Beat 005 | Type 3 | CalTrans Dist | Badge 018861 | Crash Date 20231119 | Time 0645 | Day SUN
Primary Crash Factor NOT DRIVER | Violation | Crash Type HIT OBJECT | Severity PDO | # Killed 0 | # Injured 0 | Tow Away? Y | Process Date 20231127
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Veh Involved With FIXED OBJ | Lighting DAYLIGHT | Ped Action | Cntrl Dev NT PRS/FCTR | Loc Type | Ramp/Int
Latitude 36.02142 | Longitude 119.29482 | Local Rpt # 9480-2023-02463 | Case ID 92245471

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1	Viol	OAF2	Safety Equip
1	DRVR	49	F	H	HNBD		PARKING	S	A	0700	CHEV	2014	-	3	N	-	L G

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected

Primary Rd PINKHAM ST Distance(ft) 205 Direction S Secondary Rd K AV NCIC 5407 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City VISALIA County TULARE Population 5 Rpt Dist 480 Beat 034 Type CalTrans Dist Badge A359 Crash Date 20231129 Time 1559 Day WED
Primary Crash Factor WRONG SIDE Violation 21650 Crash Type HEAD-ON Severity INJURY # Killed 0 # Injured 1 Tow Away? Y Process Date 20240108
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run Motor Veh Involved With FIXED OBJ Lighting DAYLIGHT Ped Action Cntrl Dev FNCTNG Loc Type Ramp/Int
Latitude 36.30618 Longitude 119.26946 Local Rpt # 23-101789 Case ID 9634058

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	53	M	H	HNBD		PROC ST	-	F	2600	-	2006	- 3	N		-	L G

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected
DRVR	MINOR	53	M	1	L G	0

Primary Rd MERRITT DR Distance(ft) I Direction Secondary Rd CHURCH DR NCIC 9480 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City UNINCORPORATED County TULARE Population 9 Rpt Dist Beat 001 Type 3 CalTrans Dist Badge 017291 Crash Date 20231129 Time 1730 Day WED
Primary Crash Factor R-O-W AUTO Violation 21802A Crash Type BROADSIDE Severity PDO # Killed 0 # Injured 0 Tow Away? N Process Date 20231205
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run Motor Veh Involved With OTHER MV Lighting DARK - NO ST LTS Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int
Latitude 36.45467 Longitude 119.48510 Local Rpt # 9480-2023-02534 Case ID 92253108

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	65	M	H	HNBD		PROC ST	S	D	2200	CHEV	2005	- 4	N		-	M G
2	DRVR	23	M	W	HNBD		PROC ST	E	D	2200	FORD	2019	- 4	N		-	L G

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected

Primary Rd MAIN ST Distance(ft) 17 Direction N Secondary Rd CLEVELAND AV NCIC 5405 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City PORTERVILLE County TULARE Population 4 Rpt Dist 2 Beat Type CalTrans Dist Badge 282 Crash Date 20231129 Time 1821 Day WED
Primary Crash Factor IMPROP TURN Violation 22107 Crash Type HIT OBJECT Severity INJURY # Killed 0 # Injured 1 Tow Away? Y Process Date 20231226
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run Motor Veh Involved With FIXED OBJ Lighting DARK - ST LTS Ped Action Cntrl Dev FNCTNG Loc Type Ramp/Int
Latitude 36.07065 Longitude 119.01620 Local Rpt # 23P54872 Case ID 9642536

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	19	F	O	HNBD		PROC ST	N	A	0100	-	2009	- 3	A 12500A		-	L G

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected
PASS	POSSIBLE	53	F	6	L G	0
PASS		26	F	4	L G	0
PASS		21	M	3	L G	0

Primary Rd ROAD 80 Distance(ft) 314 Direction S Secondary Rd AVENUE 328 NCIC 9480 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City UNINCORPORATED County TULARE Population 9 Rpt Dist Beat 001 Type 3 CalTrans Dist Badge 019349 Crash Date 20240323 Time 0700 Day SAT
Primary Crash Factor UNSAFE SPEED Violation 22350 Crash Type HIT OBJECT Severity PDO # Killed 0 # Injured 0 Tow Away? Y Process Date 20240402
Weather1 RAINING Weather2 Rdwy Surface WET Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run Motor Veh Involved With OTHER OBJ Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int
Latitude 36.38448 Longitude 119.39482 Local Rpt # 9480-2024-00618 Case ID 92352594

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	32	M	H	HNBD		UNS TURN	S	D	2200	GMC	2008	-	3	N	-	M G

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected

Primary Rd AVE 284 Distance(ft) 125 Direction W Secondary Rd ROAD 120 NCIC 9480 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City UNINCORPORATED County TULARE Population 9 Rpt Dist Beat 002 Type 3 CalTrans Dist Badge 019186 Crash Date 20240323 Time 0900 Day SAT
Primary Crash Factor UNSAFE SPEED Violation 22350 Crash Type REAR END Severity PDO # Killed 0 # Injured 0 Tow Away? N Process Date 20240327
Weather1 CLOUDY Weather2 RAINING Rdwy Surface WET Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run Motor Veh Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int
Latitude 36.48692 Longitude 119.30484 Local Rpt # 9480-2024-00620 Case ID 92348691

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	32	M	H	HNBD		PROC ST	E	A	0100	HOND	2001	-	3	N	-	M G
2	DRVR	38	F	W	HNBD		STOPPED	E	A	0100	HOND	2006	-	3	N	-	M G

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected

Primary Rd ROAD 36 Distance(ft) 2640 Direction N Secondary Rd AVENUE 216 NCIC 9480 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City UNINCORPORATED County TULARE Population 9 Rpt Dist Beat 003 Type 3 CalTrans Dist Badge 021370 Crash Date 20240323 Time 0935 Day SAT
Primary Crash Factor NOT DRIVER Violation Crash Type OTHER Severity PDO # Killed 0 # Injured 0 Tow Away? N Process Date 20240402
Weather1 CLOUDY Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run Motor Veh Involved With ANIMAL Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int
Latitude 36.18835 Longitude 119.49326 Local Rpt # 9480-2024-00626 Case ID 92352550

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1	Viol	OAF2	Safety Equip
1	DRVR	47	F	H	HNBD		PROC ST	S	A	0100	TOYT	2002	-	3	N	-	M G

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected

Primary Rd CALDWELL AV Distance(ft) I Direction Secondary Rd LOVERS LN NCIC 5407 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City VISALIA County TULARE Population 5 Rpt Dist 480 Beat 034 Type CalTrans Dist Badge A359 Crash Date 20240323 Time 1045 Day SAT
Primary Crash Factor STOP SGNISIG Violation 21453A Crash Type BROADSIDE Severity INJURY # Killed 0 # Injured 1 Tow Away? N Process Date 20240425
Weather1 CLEAR Weather2 Rdwy Surface WET Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run Motor Veh Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev FNCTNG Loc Type Ramp/Int
Latitude 36.29828 Longitude 119.26089 Local Rpt # 24-023807 Case ID 9681387

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	54	M	H	HNBD		PROC ST	N	D	2200	-	2003	-	3	N	-	M G
2	DRVR	63	F	W	HNBD		PROC ST	W	A	0100	-	2012	-	3	N	-	- -

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected
PASS	POSSIBLE	56	F	3	M G	0
PASS		9	M	5	M G	0

Primary Rd ELMONTE WAY | Distance(ft) I | Direction | Secondary Rd N PERRY ST | NCIC 5401 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy

City DINUBA | County TULARE | Population 3 | Rpt Dist 5401 | Beat 00B | Type | CalTrans Dist | Badge 2132 | Crash Date 20240507 | Time 1322 | Day TUE

Primary Crash Factor NOT DRIVER | Violation | Crash Type AUTO/PED | Severity PDO | # Killed 0 | # Injured 0 | Tow Away? N | Process Date 20240711

Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0

Hit and Run MISDEMEANOR | Motor Veh Involved With PED | Lighting DAYLIGHT | Ped Action X-WLK AT IS | Cntrl Dev NT PRS/FCTR | Loc Type | Ramp/Int

Latitude | Longitude | Local Rpt # DA2401631 | Case ID 9677164

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1	Viol	OAF2	Safety Equip
1	PED	998	-		IMP UNK	IMP UNK	PROC ST	E	N	6000	-		-	-	N	-	- -
2	DRVR	39	M	A	IMP UNK	IMP UNK	RGT TURN	W	A	0100	-	2015	-	-	N	-	M A

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected
PASS		998	M	3	- A	-

Primary Rd W NEBRASKA AV | Distance(ft) 11 | Direction N | Secondary Rd RD 72 | NCIC 5401 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy

City DINUBA | County TULARE | Population 3 | Rpt Dist 5401 | Beat 001 | Type | CalTrans Dist | Badge 2116 | Crash Date 20240507 | Time 1412 | Day TUE

Primary Crash Factor OTHER IMPROP DRV | Violation | Crash Type OTHER | Severity INJURY | # Killed 0 | # Injured 1 | Tow Away? Y | Process Date 20240917

Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0

Hit and Run | Motor Veh Involved With OTHER MV | Lighting DAYLIGHT | Ped Action | Cntrl Dev NT PRS/FCTR | Loc Type | Ramp/Int

Latitude | Longitude | Local Rpt # DA2401632 | Case ID 9677472

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	29	F	H	HNBD		PROC ST	N	A	0700	-	2018	-	-	-	-	M G
2	DRVR	62	M	H	HNBD		PROC ST	E	A	0100	-	2021	-	-	-	-	M G

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected
DRVR	COMP PN	29	M	1	M G	0
PASS		2	M	4	M Q	0

Primary Rd LOVERS LN | Distance(ft) I | Direction | Secondary Rd WALNUT AV | NCIC 5407 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy

City VISALIA | County TULARE | Population 5 | Rpt Dist 480 | Beat 034 | Type | CalTrans Dist | Badge A395 | Crash Date 20240507 | Time 1420 | Day TUE

Primary Crash Factor DRVR ALCIDRG | Violation 23152B | Crash Type BROADSIDE | Severity PDO | # Killed 0 | # Injured 0 | Tow Away? Y | Process Date 20240712

Weather1 CLEAR | Weather2 | Rdwy Surface WET | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0

Hit and Run | Motor Veh Involved With OTHER MV | Lighting DARK - ST LTS | Ped Action | Cntrl Dev FNCTNG | Loc Type | Ramp/Int

Latitude | Longitude | Local Rpt # 24-036038 | Case ID 9714400

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	46	M	H	HBD-UI		LFT TURN	W	A	0700	-	2022	-	-	A 21453C	-	L G
2	DRVR	37	M		HNBD		PROC ST	N	A	0700	-	2003	-	-	N	-	M G

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected

Primary Rd HOUSTON AV | Distance(ft) I | Direction | Secondary Rd LOCUST | NCIC 5407 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy

City VISALIA | County TULARE | Population 5 | Rpt Dist 480 | Beat 025 | Type | CalTrans Dist | Badge 12635 | Crash Date 20240523 | Time 1608 | Day THU

Primary Crash Factor R-O-W AUTO | Violation 21801A | Crash Type BROADSIDE | Severity INJURY | # Killed 0 | # Injured 2 | Tow Away? Y | Process Date 20240716

Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0

Hit and Run | Motor Veh Involved With OTHER MV | Lighting DAYLIGHT | Ped Action | Cntrl Dev FNCTNG | Loc Type | Ramp/Int

Latitude 36.34193 | Longitude 119.29353 | Local Rpt # 24-041541 | Case ID 9714390

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	27	F	H	HNBD		LFT TURN	E	A	0100	-	2004	-	-	N	-	L C
2	DRVR	19	M	H	HNBD		PROC ST	W	A	0100	-	2012	-	-	N	-	L A

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected
DRVR	POSSIBLE	27	F	1	L G	0
DRVR	POSSIBLE	19	M	1	L G	0

Primary Rd RT 63 | Distance(ft) 91 | Direction E | Secondary Rd DOLLNER ST | NCIC 5407 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy

City VISALIA | County TULARE | Population 5 | Rpt Dist 480 | Beat 025 | Type | CalTrans Dist | Badge 12458 | Crash Date 20240523 | Time 1917 | Day THU

Primary Crash Factor LANE CHANGE | Violation 21658A | Crash Type SIDESWIPE | Severity INJURY | # Killed 0 | # Injured 1 | Tow Away? Y | Process Date 20240711

Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0

Hit and Run | Motor Veh Involved With OTHER MV | Lighting DAYLIGHT | Ped Action | Cntrl Dev FNCTNG | Loc Type | Ramp/Int

Latitude 36.32742 | Longitude 119.30753 | Local Rpt # 24-041660 | Case ID 9706538

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	30	M	W	HNBD		CHANG LN	W	A	0100	-	2016	-	-	N	-	M G
2	DRVR	23	F		HNBD		PROC ST	W	A	0100	-	2018	-	-	N	-	L G

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected
DRVR	MINOR	23	F	1	L G	0

Primary Rd AVENUE 280 | Distance(ft) I | Direction | Secondary Rd ROAD 148 | NCIC 9480 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy

City UNINCORPORATED | County TULARE | Population 9 | Rpt Dist | Beat 006 | Type 3 | CalTrans Dist | Badge 021370 | Crash Date 20240523 | Time 2110 | Day THU

Primary Crash Factor IMPROP TURN | Violation 22107 | Crash Type BROADSIDE | Severity INJURY | # Killed 0 | # Injured 2 | Tow Away? Y | Process Date 20240607

Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0

Hit and Run | Motor Veh Involved With OTHER MV, ADD | Lighting DARK - ST LTS | Ped Action | Cntrl Dev FNCTNG | Loc Type | Ramp/Int

Latitude 36.29819 | Longitude 119.24308 | Local Rpt # 9480-2024-01098 | Case ID 92409054

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	17	M	W	HNBD		LFT TURN	W	A	0100	NISS	2008	-	3	N	-	L G
2	DRVR	33	F	W	HNBD		PROC ST	W	A	0100	CHRY	2011	-	3	N	-	L G

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected
DRVR	POSSIBLE	33	F	1	L G	0
PASS	POSSIBLE	10	F	3	L G	0

Primary Rd E CALDWELL AV | Distance(ft) I | Direction | Secondary Rd S LOVERS LN | NCIC 5407 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy

City VISALIA | County TULARE | Population 5 | Rpt Dist 480 | Beat 034 | Type | CalTrans Dist | Badge 12293 | Crash Date 20240627 | Time 2024 | Day THU

Primary Crash Factor DRVR ALCIDRG | Violation 23152A | Crash Type SIDESWIPE | Severity PDO | # Killed 0 | # Injured 0 | Tow Away? N | Process Date 20240731

Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0

Hit and Run | Motor Veh Involved With OTHER MV | Lighting DARK - ST LTS | Ped Action | Cntrl Dev FNCTNG | Loc Type | Ramp/Int

Latitude | Longitude | Local Rpt # 24-051979 | Case ID 9716997

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1 Viol	OAF2	Safety Equip
1F	DRVR	47	M		HBD-UI		PROC ST	W	A	0700	FORD	2021	-	A 21650	-	L B
2	DRVR	26	F				PROC ST	W	A	0700	JEEP	2021	-	N	-	M C

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected
PASS		21	F	2	M C	0
PASS		998	M	5	M G	0

Primary Rd ROAD 196 | Distance(ft) 60 | Direction S | Secondary Rd SR-137 | NCIC 9481 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy

City UNINCORPORATED | County TULARE | Population 9 | Rpt Dist | Beat 010 | Type 3 | CalTrans Dist | Badge 021227 | Crash Date 20240627 | Time 2150 | Day THU

Primary Crash Factor R-O-W AUTO | Violation 21453B | Crash Type SIDESWIPE | Severity PDO | # Killed 0 | # Injured 0 | Tow Away? N | Process Date 20240708

Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0

Hit and Run | Motor Veh Involved With OTHER MV | Lighting DARK - ST LTS | Ped Action | Cntrl Dev FNCTNG | Loc Type | Ramp/Int

Latitude 36.21057 | Longitude 119.13623 | Local Rpt # 9481-2024-00374 | Case ID 92432559

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1 Viol	OAF2	Safety Equip
1F	DRVR	20	F	H	HNBD		RGT TURN	S	A	0100	TOYT	2012	-	3	N	-	M G
2	DRVR	27	M	H	HNBD		PROC ST	S	A	0700	KIA	2007	-	3	N	-	M G

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected

Primary Rd ORANGE BELT [illegible] | Distance(ft) 300 | Direction N | Secondary Rd AVENUE 192 | NCIC 9481 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy

City UNINCORPORATED | County TULARE | Population 9 | Rpt Dist | Beat 021 | Type 2 | CalTrans Dist | Badge 020917 | Crash Date 20240627 | Time 2313 | Day THU

Primary Crash Factor IMPROP TURN | Violation 22107 | Crash Type HIT OBJECT | Severity INJURY | # Killed 0 | # Injured 1 | Tow Away? Y | Process Date 20240705

Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0

Hit and Run | Motor Veh Involved With FIXED OBJ, ADD [illegible] | Lighting DARK - NO ST LTS | Ped Action | Cntrl Dev NT PRS/FCTR | Loc Type | Ramp/Int

Latitude 36.13920 | Longitude 119.05766 | Local Rpt # 9481-2024-00372 | Case ID 92431703

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1 Viol	OAF2	Safety Equip
1F	DRVR	27	M	H	HNBD	FATG	RAN OFF RD	N	A	0100	NISS	2015	-	3	N	-	L H

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected
DRVR	MINOR	27	M	1	L H	0

Primary Rd SR-99 N/B | Distance(ft) 3168 | Direction S | Secondary Rd PAIGE AVE | NCIC 9480 | State Hwy? Y | Route | Postmile Prefix | Postmile | Side of Hwy
City UNINCORPORATED | County TULARE | Population 9 | Rpt Dist | Beat 093 | Type 1 | CalTrans Dist | Badge 018521 | Crash Date 20240707 | Time 2145 | Day SUN
Primary Crash Factor IMPROP TURN | Violation 22107 | Crash Type HIT OBJECT | Severity PDO | # Killed 0 | # Injured 0 | Tow Away? N | Process Date 20240711
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 CONS ZONE | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Veh Involved With OTHER OBJ | Lighting DARK - ST LTS | Ped Action | Cntrl Dev NT PRS/FCTR | Loc Type | Ramp/Int
Latitude 36.17297 | Longitude 119.32994 | Local Rpt # 9480-2024-01413 | Case ID 92436556

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1 Viol	OAF2	Safety Equip
1F	DRVR	28	M	A	HNBD		OTHER	N	A	0100	NISS	2024	-	3	N	-	M G

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected

Primary Rd K ST | Distance(ft) 27 | Direction E | Secondary Rd PINKHAM | NCIC 5407 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City VISALIA | County TULARE | Population 5 | Rpt Dist 480 | Beat Q34 | Type | CalTrans Dist | Badge 12540 | Crash Date 20240707 | Time 2251 | Day SUN
Primary Crash Factor IMPROP TURN | Violation 22100A | Crash Type HEAD-ON | Severity PDO | # Killed 0 | # Injured 0 | Tow Away? Y | Process Date 20240821
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Veh Involved With FIXED OBJ | Lighting DARK - ST LTS | Ped Action | Cntrl Dev FNCTNG | Loc Type | Ramp/Int
Latitude | Longitude | Local Rpt # 24055023 | Case ID 9725040

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1 Viol	OAF2	Safety Equip
1F	DRVR	83	F	W	HNBD		LFT TURN	S	A	0100	FORD	2018	-	3	F	-	M C

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected

Primary Rd MOUNTAIN ROAD | Distance(ft) 1848 | Direction N | Secondary Rd MOUNTAIN ROAD 56 | NCIC 9481 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City UNINCORPORATED | County TULARE | Population 9 | Rpt Dist | Beat 050 | Type 3 | CalTrans Dist | Badge 021183 | Crash Date 20240707 | Time 2330 | Day SUN
Primary Crash Factor IMPROP TURN | Violation 22107 | Crash Type HIT OBJECT | Severity PDO | # Killed 0 | # Injured 0 | Tow Away? N | Process Date 20240718
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Veh Involved With FIXED OBJ | Lighting DARK - NO ST LTS | Ped Action | Cntrl Dev NT PRS/FCTR | Loc Type | Ramp/Int
Latitude 35.91431 | Longitude 118.67339 | Local Rpt # 9481-2024-00395 | Case ID 92442743

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1 Viol	OAF2	Safety Equip
1F	DRVR	26	F	H	IMP UNK	IMP UNK	UNS TURN	S	A	0100	KIA	2017	-	4	N	-	M B

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected

Primary Rd SAN ANTONIO AV | Distance(ft) 762 | Direction E | Secondary Rd CRAWFORD AV | NCIC 5401 | State Hwy? N | Route | Postmile Prefix | Postmile | Side of Hwy
City DINUBA | County TULARE | Population 3 | Rpt Dist 5401 | Beat | Type | CalTrans Dist | Badge 2134 | Crash Date 20240708 | Time 0044 | Day MON
Primary Crash Factor IMPROP TURN | Violation 22107 | Crash Type SIDESWIPE | Severity PDO | # Killed 0 | # Injured 0 | Tow Away? N | Process Date 20240820
Weather1 CLEAR | Weather2 | Rdwy Surface DRY | Rdwy Cond1 NO UNUSL CND | Rdwy Cond2 | Spec Cond 0
Hit and Run | Motor Veh Involved With PKD MV | Lighting DARK - ST LTS | Ped Action | Cntrl Dev NT PRS/FCTR | Loc Type | Ramp/Int
Latitude | Longitude | Local Rpt # DA2402408 | Case ID 9717189

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1 Viol	OAF2	Safety Equip
1F	DRVR	45	M	H	HNBD		U-TURN	E	D	2200	-	2020	-	3	F	-	L A
2	PRKD	998	-				PARKED	E	A	0100	-	2017	-	-	N	-	- -

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected

Primary Rd LOVERS LN Distance(ft) I Direction Secondary Rd CALDWELL AV NCIC 5407 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City VISALIA County TULARE Population 5 Rpt Dist 480 Beat 034 Type CalTrans Dist Badge A268 Crash Date 20240725 Time 0156 Day THU
Primary Crash Factor STOP SGNISIG Violation 21453A Crash Type BROADSIDE Severity PDO # Killed 0 # Injured 0 Tow Away? Y Process Date 20241014
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run MISDEMEANOR Motor Veh Involved With OTHER MV Lighting DARK - ST LTS Ped Action Cntrl Dev FNCTNG Loc Type Ramp/Int
Latitude Longitude Local Rpt # 24-059939 Case ID 9730754

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW	Veh	Chp	Veh	Make	Year	Sp Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	70	M	W	HNBD		PROC ST	N	A	0100	-			2022	- 2	F		-	- -
2	OTHR	998	-				PROC ST	E	-	0000	-			2017	- -	O		-	- -

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected

Primary Rd AVENUE 96 Distance(ft) 300 Direction W Secondary Rd ROAD 140 NCIC 9480 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City UNINCORPORATED County TULARE Population 9 Rpt Dist Beat 005 Type 3 CalTrans Dist Badge 021044 Crash Date 20240725 Time 0425 Day THU
Primary Crash Factor UNSAFE SPEED Violation 22350 Crash Type REAR END Severity INJURY # Killed 0 # Injured 1 Tow Away? Y Process Date 20240801
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run Motor Veh Involved With OTHER MV Lighting DARK - NO ST LTS Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int
Latitude 35.96435 Longitude 119.26116 Local Rpt # 9480-2024-01532 Case ID 93097553

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW	Veh	Chp	Veh	Make	Year	Sp Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	61	M	H	HNBD		PROC ST	E	D	2200		FORD		2004	- 3	N		-	L G
2	DRVR	30	M	H	HNBD		PROC ST	E	M	4646		KUBOT		2012	- 3	N		-	P P
3	DRVR	57	F	H	HNBD		PROC ST	W	A	0100		NISS		2018	- 3	N		-	M G

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected
DRVR	MINOR	30	M	1	P P	0

Primary Rd TULARE Distance(ft) 3 Direction E Secondary Rd B NCIC 5406 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City TULARE County TULARE Population 4 Rpt Dist DIST2 Beat 0AO Type CalTrans Dist Badge JAFLQ Crash Date 20240725 Time 1036 Day THU
Primary Crash Factor NOT DRIVER Violation Crash Type HIT OBJECT Severity PDO # Killed 0 # Injured 0 Tow Away? N Process Date 20240820
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run MISDEMEANOR Motor Veh Involved With OTHER OBJ Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int
Latitude Longitude Local Rpt # 24-38767 Case ID 9717631

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW	Veh	Chp	Veh	Make	Year	Sp Info	OAF1	Viol	OAF2	Safety Equip
1	DRVR	998	-		HNBD		PROC ST	-	F	2500	-				- 3	-		-	- -
2	PRKD	998	-					E	D	2200		FORD		2015	- -	-		-	- -

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected

Primary Rd SR-245 (MILLWOOD Distance(ft) 100 Direction S Secondary Rd BOYD DR NCIC 9480 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy
City UNINCORPORATED County TULARE Population 9 Rpt Dist Beat 045 Type 1 CalTrans Dist Badge 019543 Crash Date 20240824 Time 1025 Day SAT
Primary Crash Factor IMPROP TURN Violation 22107 Crash Type OVERTURNED Severity PDO # Killed 0 # Injured 0 Tow Away? Y Process Date 20240829
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run Motor Veh Involved With NON-CLSN Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int
Latitude 36.56615 Longitude 119.13351 Local Rpt # 9480-2024-01736 Case ID 94375989

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1 Viol	OAF2	Safety Equip
1F	DRVR	23	M	H	HNBD		RAN OFF RD	N	C	0200	SUZI	2022	-	3	A 22350	- P W

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected

Primary Rd DINUBA BL Distance(ft) 85 Direction E Secondary Rd PROSPECT AV NCIC 5407 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City VISALIA County TULARE Population 5 Rpt Dist 480 Beat 026 Type CalTrans Dist Badge 12536 Crash Date 20240824 Time 1033 Day SAT
Primary Crash Factor HAZ PARKING Violation 22500E Crash Type SIDESWIPE Severity PDO # Killed 0 # Injured 0 Tow Away? N Process Date 20241226
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run Motor Veh Involved With PKD MV Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int
Latitude Longitude Local Rpt # 24-069016 Case ID 9757742

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1 Viol	OAF2	Safety Equip
1F	DRVR	51	F		HNBD		STOPPED	N	A	0100	-	2014	-	-	-	- -
2	DRVR	33	M		HNBD		STOPPED	N	J	4300	-	2012	-	-	-	- -

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected

Primary Rd S LOVERS LN Distance(ft) 15 Direction N Secondary Rd E WALNUT AV NCIC 5407 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City VISALIA County TULARE Population 5 Rpt Dist 480 Beat 034 Type CalTrans Dist Badge C56 Crash Date 20240824 Time 1116 Day SAT
Primary Crash Factor IMPROP TURN Violation 22107 Crash Type HIT OBJECT Severity PDO # Killed 0 # Injured 0 Tow Away? N Process Date 20240927
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run Motor Veh Involved With FIXED OBJ Lighting DAYLIGHT Ped Action Cntrl Dev FNCTNG Loc Type Ramp/Int
Latitude 36.31269 Longitude 119.26056 Local Rpt # 24-069031 Case ID 9738571

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1 Viol	OAF2	Safety Equip
1F	DRVR	81	M		HNBD		LFT TURN	E	A	0100	-	2018	-	-	N	- M G

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected

Primary Rd ROAD 140 Distance(ft) 10 Direction S Secondary Rd AVENUE 280 NCIC 9480 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City UNINCORPORATED County TULARE Population 9 Rpt Dist Beat 006 Type 3 CalTrans Dist Badge 022293 Crash Date 20240825 Time 2305 Day SUN
Primary Crash Factor UNSAFE SPEED Violation 22350 Crash Type REAR END Severity PDO # Killed 0 # Injured 0 Tow Away? N Process Date 20240827
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run Motor Veh Involved With OTHER MV Lighting DARK - ST LTS Ped Action Cntrl Dev FNCTNG Loc Type Ramp/Int
Latitude 36.29803 Longitude 119.26084 Local Rpt # 9480-2024-01750 Case ID 94371901

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	27	M	H	HNBD		CHANG LN	N	A	0100	HOND	2019	- 3	N		-	M G
2	DRVR	22	F	H	HNBD		STOPPED	N	A	0100	TOYT	2024	- 3	N		-	M G

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected

Primary Rd ROAD 224 Distance(ft) 785 Direction S Secondary Rd AVENUE 182 NCIC 9481 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City UNINCORPORATED County TULARE Population 9 Rpt Dist Beat 010 Type 3 CalTrans Dist Badge 020784 Crash Date 20240826 Time 0107 Day MON
Primary Crash Factor IMPROP TURN Violation 22107 Crash Type HIT OBJECT Severity PDO # Killed 0 # Injured 0 Tow Away? Y Process Date 20240910
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run MISDEMEANOR Motor Veh Involved With OTHER OBJ Lighting DARK - NO ST LTS Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int
Latitude 36.11775 Longitude 119.07164 Local Rpt # 9481-2024-00498 Case ID 94389083

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	57	M	W	IMP UNK	IMP UNK	UNS TURN	N	A	0100	NISS	2021	- 4	N		-	L A

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected

Primary Rd SR-99 N/B Distance(ft) 3168 Direction S Secondary Rd MERRITT DR NCIC 9480 State Hwy? Y Route Postmile Prefix Postmile Side of Hwy
City UNINCORPORATED County TULARE Population 9 Rpt Dist Beat 091 Type 1 CalTrans Dist Badge 018521 Crash Date 20240826 Time 0126 Day MON
Primary Crash Factor IMPROP TURN Violation 22107 Crash Type HIT OBJECT Severity INJURY # Killed 0 # Injured 2 Tow Away? Y Process Date 20240903
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run Motor Veh Involved With FIXED OBJ, ADD Lighting DARK - ST LTS Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int
Latitude 36.44452 Longitude 119.48290 Local Rpt # 9480-2024-01749 Case ID 94380083

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	19	M	H	HNBD	FATG	OTHER	N	A	0700	MAZD	2014	- 3	N		-	L G

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected
DRVR	MINOR	19	M	1	L G	0
PASS	MINOR	18	F	3	L G	0

Primary Rd **STATE ROUTE 190** Distance(ft) **560** Direction **E** Secondary Rd **BRIDGE DRIVE** NCIC **9481** State Hwy? **Y** Route Postmile Prefix Postmile Side of Hwy

City **UNINCORPORATED** County **TULARE** Population **9** Rpt Dist Beat **053** Type **1** CalTrans Dist Badge **021234** Crash Date **20241104** Time **2035** Day **MON**

Primary Crash Factor **UNSAFE SPEED** Violation **22350** Crash Type **REAR END** Severity **PDO** # Killed **0** # Injured **0** Tow Away? **Y** Process Date **20241107**

Weather1 **CLEAR** Weather2 Rdwy Surface **DRY** Rdwy Cond1 **NO UNUSL CND** Rdwy Cond2 Spec Cond **0**

Hit and Run Motor Veh Involved With **OTHER MV, ADD** Lighting **DARK - ST LTS** Ped Action Cntrl Dev **NT PRS/FCTR** Loc Type Ramp/Int

Latitude **36.13237** Longitude **118.81578** Local Rpt # **9481-2024-00676** Case ID **94461389**

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW	Veh	Chp	Veh	Make	Year	Sp Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	34	M	H	HNBD		PROC ST	W	D	2200			FORD	2003	-	3	N	-	M G
2	DRVR	34	F	H	HNBD		PROC ST	W	A	0100			CHEV	2016	-	1	N	-	L G

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected

Primary Rd **SR-99 S/B** Distance(ft) **300** Direction **N** Secondary Rd **COUNTY LINE ROAD** NCIC **9480** State Hwy? **Y** Route Postmile Prefix Postmile Side of Hwy

City **UNINCORPORATED** County **TULARE** Population **9** Rpt Dist Beat **095** Type **1** CalTrans Dist Badge **021547** Crash Date **20241105** Time **0510** Day **TUE**

Primary Crash Factor **IMPROP TURN** Violation **22107** Crash Type **BROADSIDE** Severity **PDO** # Killed **0** # Injured **0** Tow Away? **N** Process Date **20241112**

Weather1 **CLEAR** Weather2 Rdwy Surface **DRY** Rdwy Cond1 **NO UNUSL CND** Rdwy Cond2 Spec Cond **0**

Hit and Run Motor Veh Involved With **OTHER MV** Lighting **DARK - NO ST LTS** Ped Action Cntrl Dev **NT PRS/FCTR** Loc Type Ramp/Int

Latitude **35.79188** Longitude **119.25210** Local Rpt # **9480-2024-02362** Case ID **94466493**

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW	Veh	Chp	Veh	Make	Year	Sp Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	38	M	H	HNBD		OTHER	S	B	0735			CADI	2019	-	3	N	-	M G
2	DRVR	38	M	H	HNBD		PROC ST	S	G	2731			VOLV	2013	-	3	N	-	P G

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected

Primary Rd **S LOVERS LN** Distance(ft) **I** Direction Secondary Rd **E CALDWELL AV** NCIC **5407** State Hwy? **N** Route Postmile Prefix Postmile Side of Hwy

City **VISALIA** County **TULARE** Population **5** Rpt Dist **480** Beat **Q34** Type CalTrans Dist Badge **M372** Crash Date **20241105** Time **0736** Day **TUE**

Primary Crash Factor **R-O-W AUTO** Violation **21802A** Crash Type **BROADSIDE** Severity **INJURY** # Killed **0** # Injured **2** Tow Away? **Y** Process Date **20250113**

Weather1 **CLEAR** Weather2 Rdwy Surface **DRY** Rdwy Cond1 **NO UNUSL CND** Rdwy Cond2 Spec Cond **0**

Hit and Run Motor Veh Involved With **OTHER MV** Lighting **DAYLIGHT** Ped Action Cntrl Dev **FNCTNG** Loc Type Ramp/Int

Latitude **36.29829** Longitude **119.26090** Local Rpt # **24-089924** Case ID **9770693**

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW	Veh	Chp	Veh	Make	Year	Sp Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	83	M		HNBD		RGT TURN	W	A	0100		-		2016	-	3	N	-	L G
2	DRVR	59	M		HNBD		PROC ST	N	G	2531		-		2018	-	3	N	-	- -

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected
DRVR	MINOR	83	M	1	L G	0
PASS	MINOR	72	F	2	L G	0

Primary Rd E. BOBBI AVENUE Distance(ft) 150 Direction W Secondary Rd CHURCH ROAD NCIC 9480 State Hwy? N Route Postmile Prefix Postmile Side of Hwy

City UNINCORPORATED County TULARE Population 9 Rpt Dist Beat 005 Type 3 CalTrans Dist Badge 019048 Crash Date 20241118 Time 1613 Day MON

Primary Crash Factor IMPROP TURN Violation 22107 Crash Type REAR END Severity PDO # Killed 0 # Injured 0 Tow Away? N Process Date 20241127

Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0

Hit and Run MISDEMEANOR Motor Veh Involved With PKD MV Lighting DUSK/DAWN Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int

Latitude 35.89505 Longitude 119.26910 Local Rpt # 9480-2024-02449 Case ID 94485679

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW	Veh Chp	Veh Make	Year	Sp Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	998	M	H	IMP UNK	IMP UNK	UNS TURN	E	A	0700	LINC	2008	- 4	N		-	B B
2	PRKD	998	-				PARKED	E	A	0100	FORD	2006	- 3	N		-	- -

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected

Primary Rd CROSS Distance(ft) I Direction Secondary Rd J NCIC 5406 State Hwy? N Route Postmile Prefix Postmile Side of Hwy

City TULARE County TULARE Population 4 Rpt Dist DIST2 Beat 0AO Type CalTrans Dist Badge OZHLG Crash Date 20241118 Time 1626 Day MON

Primary Crash Factor R-O-W AUTO Violation 21453B Crash Type BROADSIDE Severity PDO # Killed 0 # Injured 0 Tow Away? N Process Date 20241213

Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0

Hit and Run Motor Veh Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev FNCTNG Loc Type Ramp/Int

Latitude 36.21301 Longitude 119.34888 Local Rpt # 2460407 Case ID 9760545

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW	Veh Chp	Veh Make	Year	Sp Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	46	F	H	HNBD		RGT TURN	W	A	0700	-	2011	- 3	N		-	M G
2	DRVR	55	M		HNBD		PROC ST	N	A	0100	-	1998	- 3	N		-	M G

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected

Primary Rd ROAD 140 Distance(ft) 125 Direction S Secondary Rd CALDWELL AVENUE NCIC 9480 State Hwy? N Route Postmile Prefix Postmile Side of Hwy

City UNINCORPORATED County TULARE Population 9 Rpt Dist Beat 006 Type 3 CalTrans Dist Badge 017108 Crash Date 20241118 Time 1710 Day MON

Primary Crash Factor UNSAFE SPEED Violation 22350 Crash Type REAR END Severity PDO # Killed 0 # Injured 0 Tow Away? Y Process Date 20241119

Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0

Hit and Run Motor Veh Involved With OTHER MV Lighting DARK - NO ST LTS Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int

Latitude 36.29780 Longitude 119.26085 Local Rpt # 9480-2024-02454 Case ID 94476128

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW	Veh Chp	Veh Make	Year	Sp Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	42	M	H	HNBD		PROC ST	N	A	0100	NISS	2000	- 4	N		-	M G
2	DRVR	40	F	O	HNBD		STOPPED	N	A	0100	TOYT	2023	- 4	N		-	M G

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected

Primary Rd S LOVERS LN Distance(ft) I Direction Secondary Rd E CALDWELL AV NCIC 5407 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City VISALIA County TULARE Population 5 Rpt Dist 480 Beat 034 Type CalTrans Dist Badge C60 Crash Date 20241209 Time 1051 Day MON
Primary Crash Factor STOP SGNISIG Violation 21453A Crash Type BROADSIDE Severity INJURY # Killed 0 # Injured 1 Tow Away? Y Process Date 20250129
Weather1 CLOUDY Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run FELONY Motor Veh Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev FNCTNG Loc Type Ramp/Int
Latitude 36.29728 Longitude 119.26089 Local Rpt # 24-099669 Case ID 9774960

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	998	-		IMP UNK	IMP UNK	PROC ST	S	A	0100	-	2021	-	-	N	-	M -
2	DRVR	61	F	H	HNBD		PROC ST	E	A	0100	-	2000	-	-	N	-	M G

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected
DRVR	SERIOUS	61	F	1	M G	0

Primary Rd BARDSLEY Distance(ft) 419 Direction W Secondary Rd O ST NCIC 5406 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City TULARE County TULARE Population 4 Rpt Dist DIST3 Beat EAST Type CalTrans Dist Badge FNVWJ Crash Date 20241209 Time 1104 Day MON
Primary Crash Factor IMPROP TURN Violation 22107 Crash Type REAR END Severity INJURY # Killed 0 # Injured 1 Tow Away? Y Process Date 20250328
Weather1 CLOUDY Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run Motor Veh Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int
Latitude 36.19659 Longitude 119.33979 Local Rpt # 24-63875 Case ID 9781889

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	22	M	H	HNBD		PROC ST	E	A	0100	-	2021	-	3	N	-	M G
2	DRVR	19	M	H	HNBD		PROC ST	E	A	0100	FORD	2006	-	3	N	-	L G
3	DRVR	34	M	H			PROC ST	W	D	2200	-	2010	-	3	N	-	L G
4	DRVR	24	F	H			PROC ST	W	A	0100	-	2020	-	3	N	-	M G
5	DRVR	47	F	H	HNBD		PROC ST	W	A	0100	-	2018	-	3	N	-	L G

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected
DRVR	MINOR	19	M	1	L G	0
PASS		18	F	3	L G	0
PASS		0	F	6	M Q	0

Primary Rd AVENUE 128 Distance(ft) 15 Direction E Secondary Rd ROAD 168 NCIC 9481 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City UNINCORPORATED County TULARE Population 9 Rpt Dist Beat 030 Type 3 CalTrans Dist Badge 018029 Crash Date 20241209 Time 1134 Day MON
Primary Crash Factor IMPROP TURN Violation 22107 Crash Type HIT OBJECT Severity PDO # Killed 0 # Injured 0 Tow Away? N Process Date 20250123
Weather1 FOG Weather2 Rdwy Surface WET Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run Motor Veh Involved With FIXED OBJ Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int
Latitude 36.02246 Longitude 119.19729 Local Rpt # 9481-2024-00754 Case ID 94499878

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1	Viol	OAF2	Safety Equip
1F	DRVR	57	M	W	HNBD		RAN OFF RD	E	D	2200	CHEV	2021	-	3	L	-	L G

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected

Primary Rd AVENUE 95 Distance(ft) I Direction Secondary Rd ROAD 248 NCIC 9481 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City UNINCORPORATED County TULARE Population 9 Rpt Dist Beat 050 Type 3 CalTrans Dist Badge 020917 Crash Date 20241216 Time 1605 Day MON
Primary Crash Factor R-O-W AUTO Violation 21801A Crash Type HEAD-ON Severity INJURY # Killed 0 # Injured 2 Tow Away? Y Process Date 20241223
Weather1 CLOUDY Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run Motor Veh Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev NT PRS/FCTR Loc Type Ramp/Int
Latitude 35.96241 Longitude 119.01813 Local Rpt # 9481-2024-00773 Case ID 94514163

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1 Viol	OAF2	Safety Equip
1F	DRVR	50	M	H	HNBD		LFT TURN	E	A	0700	NISS	2008	-	3	N	- L G
2	DRVR	36	M	H	HNBD		PROC ST	W	D	2200	FORD	2019	-	3	N	- L G

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected
DRVR	POSSIBLE	50	M	1	L G	0
PASS	SERIOUS	46	F	3	L G	0

Primary Rd CALDWELL Distance(ft) I Direction Secondary Rd LOVERS LN NCIC 5407 State Hwy? N Route Postmile Prefix Postmile Side of Hwy
City VISALIA County TULARE Population 5 Rpt Dist 480 Beat Q34 Type CalTrans Dist Badge 12060 Crash Date 20241216 Time 1605 Day MON
Primary Crash Factor IMPROP TURN Violation 22107 Crash Type REAR END Severity PDO # Killed 0 # Injured 0 Tow Away? N Process Date 20250213
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run MISDEMEANOR Motor Veh Involved With OTHER MV Lighting DAYLIGHT Ped Action Cntrl Dev FNCTNG Loc Type Ramp/Int
Latitude Longitude Local Rpt # 24-101830 Case ID 9776993

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1 Viol	OAF2	Safety Equip
1F	DRVR	998	-		IMP UNK	IMP UNK	MERGING	-	-	0000	-	2003	-	3	N	- - -
2	DRVR	26	F	H	HNBD		PROC ST	E	A	0100	-	2021	-	3	N	- M G

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected

Primary Rd RT 65 Distance(ft) I Direction Secondary Rd FRESNO ST NCIC 5404 State Hwy? Y Route 65 Postmile Prefix - Postmile 29.920 Side of Hwy S
City LINDSAY County TULARE Population 2 Rpt Dist SCJC Beat 22L Type CalTrans Dist 6 Badge 688 Crash Date 20241216 Time 1616 Day MON
Primary Crash Factor UNSAFE SPEED Violation 22350 Crash Type REAR END Severity INJURY # Killed 0 # Injured 3 Tow Away? Y Process Date 20250214
Weather1 CLEAR Weather2 Rdwy Surface DRY Rdwy Cond1 NO UNUSL CND Rdwy Cond2 Spec Cond 0
Hit and Run Motor Veh Involved With OTHER MV Lighting DUSK/DAWN Ped Action Cntrl Dev NT PRS/FCTR Loc Type I Ramp/Int 5
Latitude Longitude Local Rpt # 24L-08760 Case ID 9763541

PARTY INFO

Party	Type	Age	Sex	Race	Sobriety1	Sobriety2	Move Pre Crash	Dir	SW Veh	Chp Veh	Make	Year	Sp Info	OAF1 Viol	OAF2	Safety Equip
1F	DRVR	23	M	H	HNBD		PROC ST	S	A	0100	-	2010	-	3	N	- M G
2	DRVR	38	M	H	HNBD		STOPPED	S	D	2200	-	2017	-	3	N	- - G
3	DRVR	52	M	W	HNBD		STOPPED	S	D	2200	-	2005	-	3	I	- - G

VICTIM INFO

Role	Ext Of Inj	Age	Sex	Seat Pos	Safety Equip	Ejected
PASS	COMP PN	21	M	2	M G	-
PASS		24	F	-	- G	-
PASS	COMP PN	8	F	-	- G	-
PASS		998	M	-	Q -	-
DRVR	COMP PN	25	M	1	M G	-

Appendix F: Existing Traffic Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	87	224	97	80	297	46	11	157	290	49	2	63
Future Volume (vph)	87	224	97	80	297	46	11	157	290	49	2	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3		6.0			4.2	5.7			4.2
Lane Util. Factor		1.00	1.00		1.00			1.00	0.95			1.00
Frpb, ped/bikes		1.00	0.99		1.00			1.00	1.00			1.00
Flpb, ped/bikes		1.00	1.00		1.00			1.00	1.00			1.00
Frt		1.00	0.85		0.99			1.00	0.98			1.00
Flt Protected		0.99	1.00		0.99			0.95	1.00			0.95
Satd. Flow (prot)		1819	1547		1798			1752	3429			1752
Flt Permitted		0.99	1.00		0.99			0.95	1.00			0.95
Satd. Flow (perm)		1819	1547		1798			1752	3429			1752
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	99	255	110	91	338	52	13	178	330	56	2	72
RTOR Reduction (vph)	0	0	85	0	4	0	0	0	11	0	0	0
Lane Group Flow (vph)	0	354	25	0	477	0	0	191	375	0	0	74
Confl. Peds. (#/hr)			1			1						
Turn Type	Split	NA	Perm	Split	NA		Prot	Prot	NA		Prot	Prot
Protected Phases	4	4		8	8		5	5	2		1	1
Permitted Phases			4									
Actuated Green, G (s)		25.6	25.6		32.3			10.9	25.7			8.1
Effective Green, g (s)		25.6	25.6		32.3			10.9	25.7			8.1
Actuated g/C Ratio		0.23	0.23		0.29			0.10	0.23			0.07
Clearance Time (s)		5.3	5.3		6.0			4.2	5.7			4.2
Vehicle Extension (s)		3.0	3.0		3.0			3.0	3.0			3.0
Lane Grp Cap (vph)		412	350		514			169	780			125
v/s Ratio Prot		c0.19			c0.27			c0.11	c0.11			0.04
v/s Ratio Perm			0.02									
v/c Ratio		0.86	0.07		0.93			1.13	0.48			0.59
Uniform Delay, d1		41.9	34.3		39.2			51.0	37.8			50.8
Progression Factor		1.00	1.00		1.00			1.00	1.00			1.00
Incremental Delay, d2		16.1	0.1		23.1			108.5	0.5			7.3
Delay (s)		58.1	34.4		62.3			159.5	38.3			58.1
Level of Service		E	C		E			F	D			E
Approach Delay (s/veh)		52.5			62.3				78.4			
Approach LOS		D			E				E			

Intersection Summary			
HCM 2000 Control Delay (s/veh)	60.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	112.9	Sum of lost time (s)	21.2
Intersection Capacity Utilization	80.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	334	122
Future Volume (vph)	334	122
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.7	
Lane Util. Factor	0.95	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	0.96	
Flt Protected	1.00	
Satd. Flow (prot)	3364	
Flt Permitted	1.00	
Satd. Flow (perm)	3364	
Peak-hour factor, PHF	0.88	0.88
Adj. Flow (vph)	380	139
RTOR Reduction (vph)	32	0
Lane Group Flow (vph)	487	0
Confl. Peds. (#/hr)		
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	22.9	
Effective Green, g (s)	22.9	
Actuated g/C Ratio	0.20	
Clearance Time (s)	5.7	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	682	
v/s Ratio Prot	c0.14	
v/s Ratio Perm		
v/c Ratio	0.71	
Uniform Delay, d1	41.9	
Progression Factor	1.00	
Incremental Delay, d2	3.6	
Delay (s)	45.5	
Level of Service	D	
Approach Delay (s/veh)	47.1	
Approach LOS	D	

Intersection Summary

Intersection	
Intersection Delay, s/veh	12.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	70	67	40	5	110	26	92	145	6	25	59	51
Future Vol, veh/h	70	67	40	5	110	26	92	145	6	25	59	51
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	96	92	55	7	151	36	126	199	8	34	81	70
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay, s/veh	11	12.1	14.7	11.1
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	38%	100%	0%	100%	0%	19%
Vol Thru, %	60%	0%	63%	0%	81%	44%
Vol Right, %	2%	0%	37%	0%	19%	38%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	243	70	107	5	136	135
LT Vol	92	70	0	5	0	25
Through Vol	145	0	67	0	110	59
RT Vol	6	0	40	0	26	51
Lane Flow Rate	333	96	147	7	186	185
Geometry Grp	2	5	5	5	5	2
Degree of Util (X)	0.521	0.184	0.249	0.013	0.327	0.291
Departure Headway (Hd)	5.635	6.896	6.119	6.974	6.327	5.666
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	639	519	585	511	566	631
Service Time	3.691	4.661	3.883	4.742	4.095	3.734
HCM Lane V/C Ratio	0.521	0.185	0.251	0.014	0.329	0.293
HCM Control Delay, s/veh	14.7	11.2	10.9	9.8	12.2	11.1
HCM Lane LOS	B	B	B	A	B	B
HCM 95th-tile Q	3	0.7	1	0	1.4	1.2

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Vol, veh/h	28	76	1	57	377	4	518	26
Future Vol, veh/h	28	76	1	57	377	4	518	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None
Storage Length	0	115	-	290	-	100	-	-
Veh in Median Storage, #	0	-	-	-	0	-	0	-
Grade, %	0	-	-	-	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3	3	3
Mvmt Flow	32	86	1	65	428	5	589	30

Major/Minor	Minor2		Major1			Major2		
Conflicting Flow All	959	309	618	618	0	428	-	0
Stage 1	613	-	-	-	-	-	-	-
Stage 2	346	-	-	-	-	-	-	-
Critical Hdwy	6.86	6.96	6.46	4.16	-	6.46	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.53	2.23	-	2.53	-	-
Pot Cap-1 Maneuver	253	684	579	951	-	764	-	-
Stage 1	501	-	-	-	-	-	-	-
Stage 2	685	-	-	-	-	-	-	-
Platoon blocked, %					-		-	-
Mov Cap-1 Maneuver	234	684	937	937	-	764	-	-
Mov Cap-2 Maneuver	234	-	-	-	-	-	-	-
Stage 1	465	-	-	-	-	-	-	-
Stage 2	681	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	14.19	1.22	0.07
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBU	SBT	SBR
Capacity (veh/h)	937	-	234	684	764	-	-
HCM Lane V/C Ratio	0.07	-	0.136	0.126	0.006	-	-
HCM Ctrl Dly (s/v)	9.1	-	22.8	11	9.7	-	-
HCM Lane LOS	A	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.5	0.4	0	-	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Vol, veh/h	49	23	1	6	382	3	571	22
Future Vol, veh/h	49	23	1	6	382	3	571	22
Conflicting Peds, #/hr	0	0	0	1	0	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None
Storage Length	0	-	-	80	-	300	-	-
Veh in Median Storage, #	0	-	-	-	0	-	0	-
Grade, %	0	-	-	-	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88
Heavy Vehicles, %	4	4	4	4	4	4	4	4
Mvmt Flow	56	26	1	7	434	3	649	25

Major/Minor	Minor2		Major1			Major2		
Conflicting Flow All	902	338	674	675	0	434	-	0
Stage 1	669	-	-	-	-	-	-	-
Stage 2	233	-	-	-	-	-	-	-
Critical Hdwy	6.88	6.98	6.48	4.18	-	6.48	-	-
Critical Hdwy Stg 1	5.88	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.88	-	-	-	-	-	-	-
Follow-up Hdwy	3.54	3.34	2.54	2.24	-	2.54	-	-
Pot Cap-1 Maneuver	274	652	529	899	-	753	-	-
Stage 1	465	-	-	-	-	-	-	-
Stage 2	778	-	-	-	-	-	-	-
Platoon blocked, %					-		-	-
Mov Cap-1 Maneuver	269	651	809	809	-	753	-	-
Mov Cap-2 Maneuver	269	-	-	-	-	-	-	-
Stage 1	460	-	-	-	-	-	-	-
Stage 2	774	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	19.38	0.17	0.05
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	809	-	331	753	-	-
HCM Lane V/C Ratio	0.01	-	0.247	0.005	-	-
HCM Ctrl Dly (s/v)	9.5	-	19.4	9.8	-	-
HCM Lane LOS	A	-	C	A	-	-
HCM 95th %tile Q(veh)	0	-	1	0	-	-

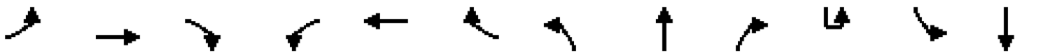
Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	35	206	352	36	29	35
Future Vol, veh/h	35	206	352	36	29	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	165	-	-	0	200	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	38	224	383	39	32	38

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	422	0	-	0	683	383
Stage 1	-	-	-	-	383	-
Stage 2	-	-	-	-	300	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1132	-	-	-	414	663
Stage 1	-	-	-	-	687	-
Stage 2	-	-	-	-	749	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1132	-	-	-	400	663
Mov Cap-2 Maneuver	-	-	-	-	400	-
Stage 1	-	-	-	-	664	-
Stage 2	-	-	-	-	749	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	1.2	0	12.58
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1132	-	-	-	400	663
HCM Lane V/C Ratio	0.034	-	-	-	0.079	0.057
HCM Ctrl Dly (s/v)	8.3	-	-	-	14.8	10.8
HCM Lane LOS	A	-	-	-	B	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3	0.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	34	160	59	52	278	84	51	286	37	1	85	424
Future Volume (veh/h)	34	160	59	52	278	84	51	286	37	1	85	424
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0		0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Work Zone On Approach		No			No			No				No
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856		1856	1856
Adj Flow Rate, veh/h	38	178	66	58	309	93	57	318	41		94	471
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90		0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3		3	3
Cap, veh/h	99	315	113	151	461	136	126	1334	171		154	1290
Arrive On Green	0.06	0.12	0.12	0.09	0.17	0.17	0.07	0.42	0.42		0.09	0.42
Sat Flow, veh/h	1767	2544	911	1767	2677	791	1767	3144	402		1767	3092
Grp Volume(v), veh/h	38	121	123	58	202	200	57	177	182		94	267
Grp Sat Flow(s),veh/h/ln	1767	1763	1692	1767	1763	1705	1767	1763	1783		1767	1763
Q Serve(g_s), s	1.6	5.0	5.3	2.4	8.3	8.5	2.4	5.0	5.1		4.0	8.1
Cycle Q Clear(g_c), s	1.6	5.0	5.3	2.4	8.3	8.5	2.4	5.0	5.1		4.0	8.1
Prop In Lane	1.00		0.54	1.00		0.46	1.00		0.23		1.00	
Lane Grp Cap(c), veh/h	99	219	210	151	304	294	126	748	757		154	736
V/C Ratio(X)	0.38	0.56	0.58	0.39	0.66	0.68	0.45	0.24	0.24		0.61	0.36
Avail Cap(c_a), veh/h	178	683	656	201	706	683	201	748	757		269	736
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Uniform Delay (d), s/veh	35.2	31.9	32.0	33.5	29.9	30.0	34.5	14.3	14.3		34.0	15.5
Incr Delay (d2), s/veh	2.4	2.2	2.6	1.6	2.5	2.8	2.5	0.7	0.8		3.8	1.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	2.1	2.1	1.0	3.4	3.4	1.0	1.8	1.9		1.7	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	37.6	34.1	34.6	35.1	32.4	32.8	37.0	15.0	15.0		37.9	16.9
LnGrp LOS	D	C	C	D	C	C	D	B	B		D	B
Approach Vol, veh/h		282			460			416				633
Approach Delay, s/veh		34.8			32.9			18.0				20.0
Approach LOS		C			C			B				C

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	38.8	12.3	15.3	11.5	38.3	8.6	19.0
Change Period (Y+Rc), s	4.2	6.0	5.7	* 5.7	6.0	* 6	4.2	5.7
Max Green Setting (Gmax), s	11.8	29.3	8.8	* 30	8.8	* 32	7.8	31.0
Max Q Clear Time (g_c+I1), s	6.0	7.1	4.4	7.3	4.4	10.2	3.6	10.5
Green Ext Time (p_c), s	0.1	1.7	0.0	1.1	0.0	2.7	0.0	2.0

Intersection Summary	
HCM 7th Control Delay, s/veh	25.2
HCM 7th LOS	C

Notes

User approved ignoring U-Turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	61
Future Volume (veh/h)	61
Initial Q (Qb), veh	0
Lane Width Adj.	1.00
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1856
Adj Flow Rate, veh/h	68
Peak Hour Factor	0.90
Percent Heavy Veh, %	3
Cap, veh/h	185
Arrive On Green	0.42
Sat Flow, veh/h	444
Grp Volume(v), veh/h	272
Grp Sat Flow(s),veh/h/ln	1774
Q Serve(g_s), s	8.2
Cycle Q Clear(g_c), s	8.2
Prop In Lane	0.25
Lane Grp Cap(c), veh/h	740
V/C Ratio(X)	0.37
Avail Cap(c_a), veh/h	740
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	15.5
Incr Delay (d2), s/veh	1.4
Initial Q Delay(d3), s/veh	0.0
%ile BackOfQ(50%),veh/ln	3.0
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	16.9
LnGrp LOS	B
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	37	232	11	9	332	15	15	22	12	29	26	74
Future Vol, veh/h	37	232	11	9	332	15	15	22	12	29	26	74
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	49	309	15	12	443	20	20	29	16	39	35	99

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	463	0	0	324	0	0	899	902	320	902	899	453
Stage 1	-	-	-	-	-	-	415	415	-	477	477	-
Stage 2	-	-	-	-	-	-	484	487	-	426	423	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1093	-	-	1230	-	-	259	276	719	257	277	605
Stage 1	-	-	-	-	-	-	613	591	-	567	555	-
Stage 2	-	-	-	-	-	-	562	549	-	605	586	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1093	-	-	1230	-	-	176	258	717	209	259	605
Mov Cap-2 Maneuver	-	-	-	-	-	-	176	258	-	209	259	-
Stage 1	-	-	-	-	-	-	579	558	-	560	547	-
Stage 2	-	-	-	-	-	-	435	542	-	528	554	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	1.12	0.2	23.26	24.14
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	262	236	-	-	45	-	-	357
HCM Lane V/C Ratio	0.25	0.045	-	-	0.01	-	-	0.482
HCM Ctrl Dly (s/v)	23.3	8.4	0	-	8	0	-	24.1
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	1	0.1	-	-	0	-	-	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	76	254	62	63	230	59	12	78	322	83	3	128
Future Volume (vph)	76	254	62	63	230	59	12	78	322	83	3	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3		6.0			4.2	5.7			4.2
Lane Util. Factor		1.00	1.00		1.00			1.00	0.95			1.00
Frt		1.00	0.85		0.98			1.00	0.97			1.00
Flt Protected		0.99	1.00		0.99			0.95	1.00			0.95
Satd. Flow (prot)		1824	1568		1787			1752	3398			1752
Flt Permitted		0.99	1.00		0.99			0.95	1.00			0.95
Satd. Flow (perm)		1824	1568		1787			1752	3398			1752
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	81	270	66	67	245	63	13	83	343	88	3	136
RTOR Reduction (vph)	0	0	50	0	6	0	0	0	19	0	0	0
Lane Group Flow (vph)	0	351	16	0	369	0	0	96	412	0	0	139
Turn Type	Split	NA	Perm	Split	NA		Prot	Prot	NA		Prot	Prot
Protected Phases	4	4		8	8		5	5	2		1	1
Permitted Phases			4									
Actuated Green, G (s)		24.9	24.9		26.3			9.6	18.6			13.6
Effective Green, g (s)		24.9	24.9		26.3			9.6	18.6			13.6
Actuated g/C Ratio		0.24	0.24		0.25			0.09	0.18			0.13
Clearance Time (s)		5.3	5.3		6.0			4.2	5.7			4.2
Vehicle Extension (s)		3.0	3.0		3.0			3.0	3.0			3.0
Lane Grp Cap (vph)		434	373		449			160	604			227
v/s Ratio Prot		c0.19			c0.21			0.05	0.12			c0.08
v/s Ratio Perm			0.01									
v/c Ratio		0.81	0.04		0.82			0.60	0.68			0.61
Uniform Delay, d1		37.6	30.7		36.9			45.7	40.2			43.0
Progression Factor		1.00	1.00		1.00			1.00	1.00			1.00
Incremental Delay, d2		10.6	0.0		11.5			6.2	3.2			4.8
Delay (s)		48.2	30.7		48.5			51.9	43.4			47.8
Level of Service		D	C		D			D	D			D
Approach Delay (s/veh)		45.5			48.5				45.0			
Approach LOS		D			D				D			

Intersection Summary			
HCM 2000 Control Delay (s/veh)	44.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	104.6	Sum of lost time (s)	21.2
Intersection Capacity Utilization	74.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	367	106
Future Volume (vph)	367	106
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.7	
Lane Util. Factor	0.95	
Frt	0.97	
Flt Protected	1.00	
Satd. Flow (prot)	3387	
Flt Permitted	1.00	
Satd. Flow (perm)	3387	
Peak-hour factor, PHF	0.94	0.94
Adj. Flow (vph)	390	113
RTOR Reduction (vph)	23	0
Lane Group Flow (vph)	480	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	22.6	
Effective Green, g (s)	22.6	
Actuated g/C Ratio	0.22	
Clearance Time (s)	5.7	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	731	
v/s Ratio Prot	c0.14	
v/s Ratio Perm		
v/c Ratio	0.66	
Uniform Delay, d1	37.5	
Progression Factor	1.00	
Incremental Delay, d2	2.1	
Delay (s)	39.6	
Level of Service	D	
Approach Delay (s/veh)	41.4	
Approach LOS	D	

Intersection Summary

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	35	74	52	14	77	16	54	73	7	23	93	27
Future Vol, veh/h	35	74	52	14	77	16	54	73	7	23	93	27
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	41	86	60	16	90	19	63	85	8	27	108	31
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay, s/veh	9.4	9.3	9.5	9.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	40%	100%	0%	100%	0%	16%
Vol Thru, %	54%	0%	59%	0%	83%	65%
Vol Right, %	5%	0%	41%	0%	17%	19%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	134	35	126	14	93	143
LT Vol	54	35	0	14	0	23
Through Vol	73	0	74	0	77	93
RT Vol	7	0	52	0	16	27
Lane Flow Rate	156	41	147	16	108	166
Geometry Grp	2	5	5	5	5	2
Degree of Util (X)	0.217	0.068	0.211	0.027	0.163	0.225
Departure Headway (Hd)	5.01	5.989	5.193	6.06	5.433	4.871
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	712	594	686	587	654	732
Service Time	3.076	3.764	2.967	3.841	3.214	2.936
HCM Lane V/C Ratio	0.219	0.069	0.214	0.027	0.165	0.227
HCM Control Delay, s/veh	9.5	9.2	9.4	9	9.3	9.4
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.8	0.2	0.8	0.1	0.6	0.9

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Vol, veh/h	22	49	4	48	491	5	394	51
Future Vol, veh/h	22	49	4	48	491	5	394	51
Conflicting Peds, #/hr	1	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None
Storage Length	0	115	-	290	-	100	-	-
Veh in Median Storage, #	0	-	-	-	0	-	0	-
Grade, %	0	-	-	-	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87
Heavy Vehicles, %	3	3	3	3	3	3	3	3
Mvmt Flow	25	56	5	55	564	6	453	59

Major/Minor	Minor2		Major1			Major2		
Conflicting Flow All	896	256	511	511	0	564	-	0
Stage 1	494	-	-	-	-	-	-	-
Stage 2	403	-	-	-	-	-	-	-
Critical Hdwy	6.86	6.96	6.46	4.16	-	6.46	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.53	2.23	-	2.53	-	-
Pot Cap-1 Maneuver	278	740	677	1043	-	626	-	-
Stage 1	576	-	-	-	-	-	-	-
Stage 2	641	-	-	-	-	-	-	-
Platoon blocked, %					-		-	-
Mov Cap-1 Maneuver	258	740	992	992	-	626	-	-
Mov Cap-2 Maneuver	258	-	-	-	-	-	-	-
Stage 1	541	-	-	-	-	-	-	-
Stage 2	634	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	13.42	0.85	0.12
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBU	SBT	SBR
Capacity (veh/h)	992	-	258	740	626	-	-
HCM Lane V/C Ratio	0.06	-	0.098	0.076	0.009	-	-
HCM Ctrl Dly (s/v)	8.9	-	20.4	10.3	10.8	-	-
HCM Lane LOS	A	-	C	B	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.3	0.2	0	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Vol, veh/h	31	4	1	19	508	4	402	38
Future Vol, veh/h	31	4	1	19	508	4	402	38
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None
Storage Length	0	-	-	80	-	300	-	-
Veh in Median Storage, #	0	-	-	-	0	-	0	-
Grade, %	0	-	-	-	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87
Heavy Vehicles, %	3	3	3	3	3	3	3	3
Mvmt Flow	36	5	1	22	584	5	462	44

Major/Minor	Minor2		Major1			Major2		
Conflicting Flow All	831	253	506	506	0	584	-	0
Stage 1	493	-	-	-	-	-	-	-
Stage 2	338	-	-	-	-	-	-	-
Critical Hdwy	6.86	6.96	6.46	4.16	-	6.46	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.53	2.23	-	2.53	-	-
Pot Cap-1 Maneuver	306	744	682	1048	-	608	-	-
Stage 1	576	-	-	-	-	-	-	-
Stage 2	691	-	-	-	-	-	-	-
Platoon blocked, %					-		-	-
Mov Cap-1 Maneuver	297	744	1020	1020	-	608	-	-
Mov Cap-2 Maneuver	297	-	-	-	-	-	-	-
Stage 1	563	-	-	-	-	-	-	-
Stage 2	686	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	17.92	0.33	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	1020	-	319	608	-	-
HCM Lane V/C Ratio	0.023	-	0.126	0.008	-	-
HCM Ctrl Dly (s/v)	8.6	-	17.9	11	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	0	-	-

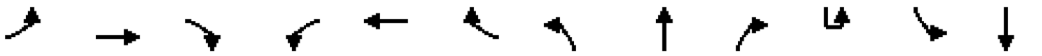
Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	45	326	315	33	14	41
Future Vol, veh/h	45	326	315	33	14	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	165	-	-	0	200	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	48	347	335	35	15	44

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	370	0	-	0	778	335
Stage 1	-	-	-	-	335	-
Stage 2	-	-	-	-	443	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1183	-	-	-	364	705
Stage 1	-	-	-	-	722	-
Stage 2	-	-	-	-	645	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1183	-	-	-	349	705
Mov Cap-2 Maneuver	-	-	-	-	349	-
Stage 1	-	-	-	-	693	-
Stage 2	-	-	-	-	645	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.99	0	11.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1183	-	-	-	349	705
HCM Lane V/C Ratio	0.04	-	-	-	0.043	0.062
HCM Ctrl Dly (s/v)	8.2	-	-	-	15.8	10.4
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1	0.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	88	220	41	36	236	77	57	357	36	1	78	247
Future Volume (veh/h)	88	220	41	36	236	77	57	357	36	1	78	247
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0		0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Work Zone On Approach		No			No			No				No
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856		1856	1856
Adj Flow Rate, veh/h	94	234	44	38	251	82	61	380	38		83	263
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		0.94	0.94
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3		3	3
Cap, veh/h	157	358	66	156	368	117	131	1365	136		150	1141
Arrive On Green	0.09	0.12	0.12	0.09	0.14	0.14	0.07	0.42	0.42		0.08	0.41
Sat Flow, veh/h	1767	2970	549	1767	2629	839	1767	3238	322		1767	2794
Grp Volume(v), veh/h	94	137	141	38	166	167	61	206	212		83	164
Grp Sat Flow(s),veh/h/ln	1767	1763	1757	1767	1763	1705	1767	1763	1798		1767	1763
Q Serve(g_s), s	3.9	5.6	5.8	1.5	6.8	7.1	2.5	5.8	5.9		3.4	4.6
Cycle Q Clear(g_c), s	3.9	5.6	5.8	1.5	6.8	7.1	2.5	5.8	5.9		3.4	4.6
Prop In Lane	1.00		0.31	1.00		0.49	1.00		0.18		1.00	
Lane Grp Cap(c), veh/h	157	213	212	156	247	239	131	743	758		150	720
V/C Ratio(X)	0.60	0.65	0.66	0.24	0.67	0.70	0.46	0.28	0.28		0.55	0.23
Avail Cap(c_a), veh/h	275	750	748	182	657	636	205	743	758		228	720
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Uniform Delay (d), s/veh	33.3	31.8	31.9	32.2	31.0	31.1	33.7	14.4	14.4		33.3	14.6
Incr Delay (d2), s/veh	3.7	3.3	3.6	0.8	3.2	3.7	2.5	0.9	0.9		3.2	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	2.4	2.5	0.6	2.8	2.9	1.1	2.1	2.2		1.5	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	37.0	35.1	35.5	33.0	34.2	34.8	36.2	15.3	15.3		36.5	15.4
LnGrp LOS	D	D	D	C	C	C	D	B	B		D	B
Approach Vol, veh/h		372			371			479				413
Approach Delay, s/veh		35.7			34.3			18.0				19.7
Approach LOS		D			C			B				B

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.6	38.0	12.4	14.9	11.6	37.0	10.9	16.3
Change Period (Y+Rc), s	4.2	6.0	5.7	* 5.7	6.0	* 6	4.2	5.7
Max Green Setting (Gmax), s	9.8	30.0	7.8	* 32	8.8	* 31	11.8	28.3
Max Q Clear Time (g_c+I1), s	5.4	7.9	3.5	7.8	4.5	6.8	5.9	9.1
Green Ext Time (p_c), s	0.1	2.0	0.0	1.3	0.0	1.6	0.1	1.6

Intersection Summary	
HCM 7th Control Delay, s/veh	26.1
HCM 7th LOS	C

Notes

User approved ignoring U-Turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	63
Future Volume (veh/h)	63
Initial Q (Qb), veh	0
Lane Width Adj.	1.00
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1856
Adj Flow Rate, veh/h	67
Peak Hour Factor	0.94
Percent Heavy Veh, %	3
Cap, veh/h	285
Arrive On Green	0.41
Sat Flow, veh/h	698
Grp Volume(v), veh/h	166
Grp Sat Flow(s),veh/h/ln	1729
Q Serve(g_s), s	4.8
Cycle Q Clear(g_c), s	4.8
Prop In Lane	0.40
Lane Grp Cap(c), veh/h	706
V/C Ratio(X)	0.23
Avail Cap(c_a), veh/h	706
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	14.7
Incr Delay (d2), s/veh	0.8
Initial Q Delay(d3), s/veh	0.0
%ile BackOfQ(50%),veh/ln	1.7
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	15.5
LnGrp LOS	B
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	302	17	15	325	19	10	20	23	15	20	32
Future Vol, veh/h	12	302	17	15	325	19	10	20	23	15	20	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	13	336	19	17	361	21	11	22	26	17	22	36

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	382	0	0	354	0	0	777	787	345	778	786	372
Stage 1	-	-	-	-	-	-	372	372	-	405	405	-
Stage 2	-	-	-	-	-	-	406	416	-	373	381	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1171	-	-	1199	-	-	313	322	696	312	323	672
Stage 1	-	-	-	-	-	-	647	617	-	620	597	-
Stage 2	-	-	-	-	-	-	620	590	-	645	611	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1171	-	-	1199	-	-	267	312	696	271	313	672
Mov Cap-2 Maneuver	-	-	-	-	-	-	267	312	-	271	313	-
Stage 1	-	-	-	-	-	-	638	609	-	609	586	-
Stage 2	-	-	-	-	-	-	555	580	-	590	603	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.29	0.34	15.74	16
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	394	65	-	-	74	-	-	401
HCM Lane V/C Ratio	0.15	0.011	-	-	0.014	-	-	0.185
HCM Ctrl Dly (s/v)	15.7	8.1	0	-	8	0	-	16
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.5	0	-	-	0	-	-	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	87	224	97	80	297	46	11	157	290	49	2	63
Future Volume (vph)	87	224	97	80	297	46	11	157	290	49	2	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.3	5.3	4.2	6.0			4.2	5.7			4.2
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00	0.95			1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00			1.00	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00			1.00
Frt	1.00	1.00	0.85	1.00	0.98			1.00	0.98			1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (prot)	1752	1845	1548	1752	1805			1752	3429			1752
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (perm)	1752	1845	1548	1752	1805			1752	3429			1752
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	99	255	110	91	338	52	13	178	330	56	2	72
RTOR Reduction (vph)	0	0	79	0	5	0	0	0	12	0	0	0
Lane Group Flow (vph)	99	255	31	91	385	0	0	191	374	0	0	74
Confl. Peds. (#/hr)			1			1						
Turn Type	Prot	NA	Perm	Prot	NA		Prot	Prot	NA		Prot	Prot
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases			4									
Actuated Green, G (s)	7.6	25.1	25.1	8.0	24.8			15.3	29.9			6.8
Effective Green, g (s)	7.6	25.1	25.1	8.0	24.8			15.3	29.9			6.8
Actuated g/C Ratio	0.09	0.28	0.28	0.09	0.28			0.17	0.34			0.08
Clearance Time (s)	4.2	5.3	5.3	4.2	6.0			4.2	5.7			4.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0			3.0
Lane Grp Cap (vph)	149	519	435	157	501			300	1149			133
v/s Ratio Prot	c0.06	0.14		0.05	c0.21			c0.11	0.11			0.04
v/s Ratio Perm			0.02									
v/c Ratio	0.66	0.49	0.07	0.58	0.77			0.64	0.33			0.56
Uniform Delay, d1	39.6	26.7	23.5	39.0	29.6			34.4	22.1			39.7
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00			1.00
Incremental Delay, d2	10.6	0.7	0.1	5.1	7.0			4.4	0.2			5.0
Delay (s)	50.2	27.5	23.6	44.1	36.5			38.7	22.3			44.7
Level of Service	D	C	C	D	D			D	C			D
Approach Delay (s/veh)		31.4			38.0				27.7			
Approach LOS		C			D				C			

Intersection Summary			
HCM 2000 Control Delay (s/veh)	32.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	89.2	Sum of lost time (s)	20.1
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	334	122
Future Volume (vph)	334	122
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.7	
Lane Util. Factor	0.95	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	0.96	
Flt Protected	1.00	
Satd. Flow (prot)	3364	
Flt Permitted	1.00	
Satd. Flow (perm)	3364	
Peak-hour factor, PHF	0.88	0.88
Adj. Flow (vph)	380	139
RTOR Reduction (vph)	33	0
Lane Group Flow (vph)	486	0
Confl. Peds. (#/hr)		
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	21.4	
Effective Green, g (s)	21.4	
Actuated g/C Ratio	0.24	
Clearance Time (s)	5.7	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	807	
v/s Ratio Prot	c0.14	
v/s Ratio Perm		
v/c Ratio	0.60	
Uniform Delay, d1	30.1	
Progression Factor	1.00	
Incremental Delay, d2	1.3	
Delay (s)	31.4	
Level of Service	C	
Approach Delay (s/veh)	33.0	
Approach LOS	C	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	76	254	62	63	230	59	12	78	322	83	3	128
Future Volume (vph)	76	254	62	63	230	59	12	78	322	83	3	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.3	5.3	4.2	6.0			4.2	5.7			4.2
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00	0.95			1.00
Frt	1.00	1.00	0.85	1.00	0.97			1.00	0.97			1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (prot)	1752	1845	1568	1752	1788			1752	3398			1752
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (perm)	1752	1845	1568	1752	1788			1752	3398			1752
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	81	270	66	67	245	63	13	83	343	88	3	136
RTOR Reduction (vph)	0	0	48	0	8	0	0	0	20	0	0	0
Lane Group Flow (vph)	81	270	18	67	300	0	0	96	411	0	0	139
Turn Type	Prot	NA	Perm	Prot	NA		Prot	Prot	NA		Prot	Prot
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases			4									
Actuated Green, G (s)	7.4	20.8	20.8	6.6	19.3			8.0	17.5			12.6
Effective Green, g (s)	7.4	20.8	20.8	6.6	19.3			8.0	17.5			12.6
Actuated g/C Ratio	0.10	0.27	0.27	0.09	0.25			0.10	0.23			0.16
Clearance Time (s)	4.2	5.3	5.3	4.2	6.0			4.2	5.7			4.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0			3.0
Lane Grp Cap (vph)	168	499	424	150	448			182	773			287
v/s Ratio Prot	c0.05	0.15		0.04	c0.17			0.05	0.12			c0.08
v/s Ratio Perm			0.01									
v/c Ratio	0.48	0.54	0.04	0.45	0.67			0.53	0.53			0.48
Uniform Delay, d1	32.9	24.0	20.7	33.4	25.9			32.7	26.1			29.2
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00			1.00
Incremental Delay, d2	2.2	1.2	0.0	2.1	3.8			2.7	0.7			1.3
Delay (s)	35.1	25.2	20.7	35.5	29.7			35.4	26.8			30.5
Level of Service	D	C	C	D	C			D	C			C
Approach Delay (s/veh)		26.4			30.7				28.4			
Approach LOS		C			C				C			

Intersection Summary			
HCM 2000 Control Delay (s/veh)	27.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	76.9	Sum of lost time (s)	20.1
Intersection Capacity Utilization	59.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	367	106
Future Volume (vph)	367	106
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.7	
Lane Util. Factor	0.95	
Frt	0.97	
Flt Protected	1.00	
Satd. Flow (prot)	3387	
Flt Permitted	1.00	
Satd. Flow (perm)	3387	
Peak-hour factor, PHF	0.94	0.94
Adj. Flow (vph)	390	113
RTOR Reduction (vph)	23	0
Lane Group Flow (vph)	480	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	22.1	
Effective Green, g (s)	22.1	
Actuated g/C Ratio	0.29	
Clearance Time (s)	5.7	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	973	
v/s Ratio Prot	c0.14	
v/s Ratio Perm		
v/c Ratio	0.49	
Uniform Delay, d1	22.8	
Progression Factor	1.00	
Incremental Delay, d2	0.4	
Delay (s)	23.1	
Level of Service	C	
Approach Delay (s/veh)	24.7	
Approach LOS	C	

Intersection Summary

Intersection: 1: Lovers Lane & Walnut Avenue

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	UL	T	TR	UL	T	TR
Maximum Queue (ft)	159	232	90	114	318	177	107	151	109	181	178
Average Queue (ft)	77	105	30	61	150	98	51	66	55	110	98
95th Queue (ft)	130	199	60	103	247	148	97	117	100	170	158
Link Distance (ft)		2564			2538		2504	2504		2548	2548
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	300		150	300		210			250		
Storage Blk Time (%)		4			0						
Queuing Penalty (veh)		7			0						

Intersection: 2: Pinkham Street & K Avenue

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	44	62	25	85	101	94
Average Queue (ft)	23	25	5	30	53	39
95th Queue (ft)	32	46	20	58	85	70
Link Distance (ft)		1330		2545	930	2251
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	200		150			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: Lovers Lane & K Avenue

Movement	EB	EB	NB	SB
Directions Served	L	R	UL	U
Maximum Queue (ft)	51	79	87	25
Average Queue (ft)	23	28	21	2
95th Queue (ft)	46	50	57	12
Link Distance (ft)	2545			
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		115	290	100
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Lovers Lane & Sunnyside Avenue

Movement	EB	NB	SB
Directions Served	LR	UL	U
Maximum Queue (ft)	74	25	26
Average Queue (ft)	35	2	1
95th Queue (ft)	56	12	9
Link Distance (ft)	671		
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		80	300
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Caldwell Avenue & Pinkham Street

Movement	EB	WB	SB	SB
Directions Served	L	R	L	R
Maximum Queue (ft)	31	41	28	46
Average Queue (ft)	4	1	14	18
95th Queue (ft)	21	13	35	38
Link Distance (ft)		1248		1815
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	165		200	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Lovers Lane & Caldwell Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	TR	UL	T	TR
Maximum Queue (ft)	74	141	105	134	122	138	116	131	144	244	332	194
Average Queue (ft)	27	72	34	41	80	79	41	76	66	54	114	56
95th Queue (ft)	65	121	62	87	119	115	90	123	127	131	208	139
Link Distance (ft)		1215	1215		1121	1121		765	765		1291	1291
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	230			90			150			125		
Storage Blk Time (%)				1	5			0		0	6	
Queuing Penalty (veh)				2	3			0		0	5	

Intersection: 12: Road 148 & Caldwell Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	30	26	46	70
Average Queue (ft)	6	1	20	41
95th Queue (ft)	24	8	43	64
Link Distance (ft)	4000	5290	2538	2586
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 21: Bend

Movement	SB	SB
Directions Served	T	
Maximum Queue (ft)	50	141
Average Queue (ft)	2	5
95th Queue (ft)	16	46
Link Distance (ft)	765	765
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 17

Intersection: 1: Lovers Lane & Walnut Avenue

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	UL	T	TR	UL	T	TR
Maximum Queue (ft)	115	182	86	128	273	150	170	193	138	216	181
Average Queue (ft)	66	108	26	49	135	74	73	97	89	110	103
95th Queue (ft)	115	184	59	93	230	128	146	167	131	180	174
Link Distance (ft)		2564			2538		2504	2504		2548	2548
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	300		150	300		210			250		
Storage Blk Time (%)		3									
Queuing Penalty (veh)		4									

Intersection: 2: Pinkham Street & K Avenue

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	43	64	25	45	76	72
Average Queue (ft)	16	23	10	24	33	41
95th Queue (ft)	36	45	28	40	55	66
Link Distance (ft)		1330		2545	930	2251
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	200		150			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: Lovers Lane & K Avenue

Movement	EB	EB	NB	SB	SB
Directions Served	L	R	UL	U	TR
Maximum Queue (ft)	52	53	31	25	22
Average Queue (ft)	14	17	13	4	1
95th Queue (ft)	41	42	35	17	7
Link Distance (ft)	2545				2504
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		115	290	100	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 5: Lovers Lane & Sunnyside Avenue

Movement	EB	NB	SB	SB
Directions Served	LR	UL	U	TR
Maximum Queue (ft)	71	29	24	51
Average Queue (ft)	25	4	1	2
95th Queue (ft)	56	19	8	17
Link Distance (ft)	671			1240
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		80	300	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 10: Caldwell Avenue & Pinkham Street

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	R	L	R
Maximum Queue (ft)	26	54	56	28	26
Average Queue (ft)	7	2	2	8	15
95th Queue (ft)	25	18	18	27	31
Link Distance (ft)		1248	1248		1815
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	165			200	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 11: Lovers Lane & Caldwell Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	TR	UL	T	TR
Maximum Queue (ft)	140	122	113	73	133	138	133	155	98	182	161	113
Average Queue (ft)	50	78	45	28	73	69	46	80	68	58	72	32
95th Queue (ft)	104	116	89	67	122	109	96	136	107	110	124	79
Link Distance (ft)		1215	1215		1121	1121		765	765		1291	1291
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	230			90			150			125		
Storage Blk Time (%)				0	3		0	0		2	1	
Queuing Penalty (veh)				0	1		0	0		3	1	

Intersection: 12: Road 148 & Caldwell Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	53	72	55	61
Average Queue (ft)	2	3	29	26
95th Queue (ft)	19	26	52	50
Link Distance (ft)	4000	5290	2538	2586
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 9

Appendix G: Opening Year No Project Traffic Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	89	226	102	80	302	50	11	167	316	49	16	70
Future Volume (vph)	89	226	102	80	302	50	11	167	316	49	16	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3		6.0			4.2	5.7			4.2
Lane Util. Factor		1.00	1.00		1.00			1.00	0.95			1.00
Frpb, ped/bikes		1.00	0.99		1.00			1.00	1.00			1.00
Flpb, ped/bikes		1.00	1.00		1.00			1.00	1.00			1.00
Frt		1.00	0.85		0.98			1.00	0.98			1.00
Flt Protected		0.99	1.00		0.99			0.95	1.00			0.95
Satd. Flow (prot)		1819	1547		1796			1752	3434			1752
Flt Permitted		0.99	1.00		0.99			0.95	1.00			0.95
Satd. Flow (perm)		1819	1547		1796			1752	3434			1752
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	101	257	116	91	343	57	13	190	359	56	18	80
RTOR Reduction (vph)	0	0	87	0	4	0	0	0	10	0	0	0
Lane Group Flow (vph)	0	358	29	0	487	0	0	203	405	0	0	98
Confl. Peds. (#/hr)			1			1						
Turn Type	Split	NA	Perm	Split	NA		Prot	Prot	NA		Prot	Prot
Protected Phases	4	4		8	8		5	5	2		1	1
Permitted Phases			4									
Actuated Green, G (s)		26.0	26.0		32.2			10.9	22.5			11.5
Effective Green, g (s)		26.0	26.0		32.2			10.9	22.5			11.5
Actuated g/C Ratio		0.23	0.23		0.28			0.10	0.20			0.10
Clearance Time (s)		5.3	5.3		6.0			4.2	5.7			4.2
Vehicle Extension (s)		3.0	3.0		3.0			3.0	3.0			3.0
Lane Grp Cap (vph)		417	354		509			168	681			177
v/s Ratio Prot		c0.20			c0.27			c0.12	0.12			0.06
v/s Ratio Perm			0.02									
v/c Ratio		0.86	0.08		0.96			1.21	0.59			0.55
Uniform Delay, d1		41.9	34.3		39.9			51.3	41.3			48.5
Progression Factor		1.00	1.00		1.00			1.00	1.00			1.00
Incremental Delay, d2		15.9	0.1		29.1			136.4	1.4			3.7
Delay (s)		57.9	34.4		69.0			187.7	42.7			52.2
Level of Service		E	C		E			F	D			D
Approach Delay (s/veh)		52.1			69.0				90.3			
Approach LOS		D			E				F			

Intersection Summary			
HCM 2000 Control Delay (s/veh)	65.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	113.4	Sum of lost time (s)	21.2
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	360	125
Future Volume (vph)	360	125
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.7	
Lane Util. Factor	0.95	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	0.96	
Flt Protected	1.00	
Satd. Flow (prot)	3369	
Flt Permitted	1.00	
Satd. Flow (perm)	3369	
Peak-hour factor, PHF	0.88	0.88
Adj. Flow (vph)	409	142
RTOR Reduction (vph)	29	0
Lane Group Flow (vph)	522	0
Confl. Peds. (#/hr)		
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	23.1	
Effective Green, g (s)	23.1	
Actuated g/C Ratio	0.20	
Clearance Time (s)	5.7	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	686	
v/s Ratio Prot	c0.15	
v/s Ratio Perm		
v/c Ratio	0.76	
Uniform Delay, d1	42.5	
Progression Factor	1.00	
Incremental Delay, d2	5.0	
Delay (s)	47.5	
Level of Service	D	
Approach Delay (s/veh)	48.2	
Approach LOS	D	

Intersection Summary

Intersection	
Intersection Delay, s/veh	13.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	71	68	40	5	112	26	92	156	6	25	69	52
Future Vol, veh/h	71	68	40	5	112	26	92	156	6	25	69	52
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	97	93	55	7	153	36	126	214	8	34	95	71
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay, s/veh	11.3	12.4	15.6	11.5
HCM LOS	B	B	C	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	36%	100%	0%	100%	0%	17%
Vol Thru, %	61%	0%	63%	0%	81%	47%
Vol Right, %	2%	0%	37%	0%	19%	36%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	254	71	108	5	138	146
LT Vol	92	71	0	5	0	25
Through Vol	156	0	68	0	112	69
RT Vol	6	0	40	0	26	52
Lane Flow Rate	348	97	148	7	189	200
Geometry Grp	2	5	5	5	5	2
Degree of Util (X)	0.551	0.19	0.256	0.013	0.339	0.32
Departure Headway (Hd)	5.703	7.015	6.239	7.094	6.449	5.753
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	630	509	573	502	554	620
Service Time	3.769	4.792	4.016	4.873	4.227	3.83
HCM Lane V/C Ratio	0.552	0.191	0.258	0.014	0.341	0.323
HCM Control Delay, s/veh	15.6	11.4	11.2	10	12.5	11.5
HCM Lane LOS	C	B	B	A	B	B
HCM 95th-tile Q	3.4	0.7	1	0	1.5	1.4

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Vol, veh/h	28	76	1	57	405	4	546	26
Future Vol, veh/h	28	76	1	57	405	4	546	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None
Storage Length	0	115	-	290	-	100	-	-
Veh in Median Storage, #	0	-	-	-	0	-	0	-
Grade, %	0	-	-	-	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3	3	3
Mvmt Flow	32	86	1	65	460	5	620	30

Major/Minor	Minor2		Major1			Major2		
Conflicting Flow All	1006	325	650	650	0	460	-	0
Stage 1	644	-	-	-	-	-	-	-
Stage 2	362	-	-	-	-	-	-	-
Critical Hdwy	6.86	6.96	6.46	4.16	-	6.46	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.53	2.23	-	2.53	-	-
Pot Cap-1 Maneuver	236	668	552	925	-	729	-	-
Stage 1	482	-	-	-	-	-	-	-
Stage 2	672	-	-	-	-	-	-	-
Platoon blocked, %					-		-	-
Mov Cap-1 Maneuver	217	668	911	911	-	729	-	-
Mov Cap-2 Maneuver	217	-	-	-	-	-	-	-
Stage 1	447	-	-	-	-	-	-	-
Stage 2	668	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	14.74	1.16	0.07
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBU	SBT	SBR
Capacity (veh/h)	911	-	217	668	729	-	-
HCM Lane V/C Ratio	0.072	-	0.146	0.129	0.006	-	-
HCM Ctrl Dly (s/v)	9.3	-	24.4	11.2	10	-	-
HCM Lane LOS	A	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.5	0.4	0	-	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Vol, veh/h	49	23	1	7	410	3	599	22
Future Vol, veh/h	49	23	1	7	410	3	599	22
Conflicting Peds, #/hr	0	0	0	1	0	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None
Storage Length	0	-	-	80	-	300	-	-
Veh in Median Storage, #	0	-	-	-	0	-	0	-
Grade, %	0	-	-	-	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88
Heavy Vehicles, %	4	4	4	4	4	4	4	4
Mvmt Flow	56	26	1	8	466	3	681	25

Major/Minor	Minor2		Major1			Major2		
Conflicting Flow All	952	354	706	707	0	466	-	0
Stage 1	701	-	-	-	-	-	-	-
Stage 2	251	-	-	-	-	-	-	-
Critical Hdwy	6.88	6.98	6.48	4.18	-	6.48	-	-
Critical Hdwy Stg 1	5.88	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.88	-	-	-	-	-	-	-
Follow-up Hdwy	3.54	3.34	2.54	2.24	-	2.54	-	-
Pot Cap-1 Maneuver	254	637	505	874	-	719	-	-
Stage 1	448	-	-	-	-	-	-	-
Stage 2	762	-	-	-	-	-	-	-
Platoon blocked, %					-		-	-
Mov Cap-1 Maneuver	250	636	794	794	-	719	-	-
Mov Cap-2 Maneuver	250	-	-	-	-	-	-	-
Stage 1	442	-	-	-	-	-	-	-
Stage 2	758	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	20.75	0.18	0.05
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	794	-	310	719	-	-
HCM Lane V/C Ratio	0.011	-	0.264	0.005	-	-
HCM Ctrl Dly (s/v)	9.6	-	20.8	10	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0	-	1	0	-	-

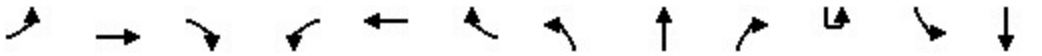
Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	46	226	371	36	29	45
Future Vol, veh/h	46	226	371	36	29	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	165	-	-	0	200	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	50	246	403	39	32	49

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	442	0	-	0	749	403
Stage 1	-	-	-	-	403	-
Stage 2	-	-	-	-	346	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1112	-	-	-	378	645
Stage 1	-	-	-	-	673	-
Stage 2	-	-	-	-	714	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1112	-	-	-	361	645
Mov Cap-2 Maneuver	-	-	-	-	361	-
Stage 1	-	-	-	-	642	-
Stage 2	-	-	-	-	714	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	1.42	0	12.95
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1112	-	-	-	361	645
HCM Lane V/C Ratio	0.045	-	-	-	0.087	0.076
HCM Ctrl Dly (s/v)	8.4	-	-	-	15.9	11
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3	0.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	40	175	63	58	290	88	56	311	49	1	91	446
Future Volume (veh/h)	40	175	63	58	290	88	56	311	49	1	91	446
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0		0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Work Zone On Approach		No			No			No				No
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856		1856	1856
Adj Flow Rate, veh/h	44	194	70	64	322	98	62	346	54		101	496
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90		0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3		3	3
Cap, veh/h	108	332	116	158	472	141	130	1280	198		156	1254
Arrive On Green	0.06	0.13	0.13	0.09	0.18	0.18	0.07	0.42	0.42		0.09	0.41
Sat Flow, veh/h	1767	2562	895	1767	2669	798	1767	3060	473		1767	3059
Grp Volume(v), veh/h	44	131	133	64	211	209	62	198	202		101	285
Grp Sat Flow(s),veh/h/ln	1767	1763	1694	1767	1763	1704	1767	1763	1770		1767	1763
Q Serve(g_s), s	1.9	5.5	5.8	2.7	8.8	9.1	2.7	5.8	5.9		4.4	9.0
Cycle Q Clear(g_c), s	1.9	5.5	5.8	2.7	8.8	9.1	2.7	5.8	5.9		4.4	9.0
Prop In Lane	1.00		0.53	1.00		0.47	1.00		0.27		1.00	
Lane Grp Cap(c), veh/h	108	228	219	158	312	302	130	737	741		156	723
V/C Ratio(X)	0.41	0.58	0.60	0.40	0.68	0.69	0.48	0.27	0.27		0.65	0.39
Avail Cap(c_a), veh/h	175	672	645	197	694	671	197	737	741		265	723
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Uniform Delay (d), s/veh	35.6	32.2	32.4	33.9	30.3	30.4	35.0	15.0	15.0		34.7	16.3
Incr Delay (d2), s/veh	2.4	2.3	2.7	1.7	2.5	2.9	2.7	0.9	0.9		4.5	1.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	2.3	2.4	1.1	3.6	3.6	1.1	2.1	2.2		1.9	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	38.0	34.5	35.0	35.5	32.8	33.3	37.7	15.9	15.9		39.2	18.0
LnGrp LOS	D	C	D	D	C	C	D	B	B		D	B
Approach Vol, veh/h		308			484			462				674
Approach Delay, s/veh		35.2			33.4			18.8				21.2
Approach LOS		D			C			B				C

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	38.9	12.8	15.9	11.8	38.3	9.0	19.6
Change Period (Y+Rc), s	4.2	6.0	5.7	* 5.7	6.0	* 6	4.2	5.7
Max Green Setting (Gmax), s	11.8	29.3	8.8	* 30	8.8	* 32	7.8	31.0
Max Q Clear Time (g_c+I1), s	6.4	7.9	4.7	7.8	4.7	11.0	3.9	11.1
Green Ext Time (p_c), s	0.1	1.9	0.0	1.2	0.0	2.9	0.0	2.1

Intersection Summary	
HCM 7th Control Delay, s/veh	25.9
HCM 7th LOS	C

Notes

User approved ignoring U-Turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	69
Future Volume (veh/h)	69
Initial Q (Qb), veh	0
Lane Width Adj.	1.00
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1856
Adj Flow Rate, veh/h	77
Peak Hour Factor	0.90
Percent Heavy Veh, %	3
Cap, veh/h	194
Arrive On Green	0.41
Sat Flow, veh/h	473
Grp Volume(v), veh/h	288
Grp Sat Flow(s),veh/h/ln	1768
Q Serve(g_s), s	9.0
Cycle Q Clear(g_c), s	9.0
Prop In Lane	0.27
Lane Grp Cap(c), veh/h	725
V/C Ratio(X)	0.40
Avail Cap(c_a), veh/h	725
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	16.4
Incr Delay (d2), s/veh	1.6
Initial Q Delay(d3), s/veh	0.0
%ile BackOfQ(50%),veh/ln	3.4
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	18.0
LnGrp LOS	B
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Intersection	
Int Delay, s/veh	7.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	49	245	15	11	344	18	15	22	12	30	33	77
Future Vol, veh/h	49	245	15	11	344	18	15	22	12	30	33	77
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	65	327	20	15	459	24	20	29	16	40	44	103

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	483	0	0	347	0	0	977	979	340	975	977	471
Stage 1	-	-	-	-	-	-	467	467	-	500	500	-
Stage 2	-	-	-	-	-	-	510	512	-	475	477	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1075	-	-	1207	-	-	229	249	700	230	250	591
Stage 1	-	-	-	-	-	-	574	560	-	551	541	-
Stage 2	-	-	-	-	-	-	544	535	-	569	554	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1075	-	-	1207	-	-	141	226	698	179	227	591
Mov Cap-2 Maneuver	-	-	-	-	-	-	141	226	-	179	227	-
Stage 1	-	-	-	-	-	-	531	518	-	542	532	-
Stage 2	-	-	-	-	-	-	406	526	-	483	512	-

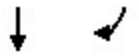
Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	1.36	0.24	27.83	31.58
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	222	282	-	-	53	-	-	316
HCM Lane V/C Ratio	0.294	0.061	-	-	0.012	-	-	0.591
HCM Ctrl Dly (s/v)	27.8	8.6	0	-	8	0	-	31.6
HCM Lane LOS	D	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	1.2	0.2	-	-	0	-	-	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	77	255	69	63	238	63	12	88	341	83	19	136
Future Volume (vph)	77	255	69	63	238	63	12	88	341	83	19	136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3		6.0			4.2	5.7			4.2
Lane Util. Factor		1.00	1.00		1.00			1.00	0.95			1.00
Frt		1.00	0.85		0.98			1.00	0.97			1.00
Flt Protected		0.99	1.00		0.99			0.95	1.00			0.95
Satd. Flow (prot)		1823	1568		1786			1752	3402			1752
Flt Permitted		0.99	1.00		0.99			0.95	1.00			0.95
Satd. Flow (perm)		1823	1568		1786			1752	3402			1752
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	82	271	73	67	253	67	13	94	363	88	20	145
RTOR Reduction (vph)	0	0	56	0	6	0	0	0	17	0	0	0
Lane Group Flow (vph)	0	353	17	0	381	0	0	107	434	0	0	165
Turn Type	Split	NA	Perm	Split	NA		Prot	Prot	NA		Prot	Prot
Protected Phases	4	4		8	8		5	5	2		1	1
Permitted Phases			4									
Actuated Green, G (s)		25.3	25.3		27.3			10.3	19.4			14.1
Effective Green, g (s)		25.3	25.3		27.3			10.3	19.4			14.1
Actuated g/C Ratio		0.24	0.24		0.25			0.10	0.18			0.13
Clearance Time (s)		5.3	5.3		6.0			4.2	5.7			4.2
Vehicle Extension (s)		3.0	3.0		3.0			3.0	3.0			3.0
Lane Grp Cap (vph)		429	369		454			168	615			230
v/s Ratio Prot		c0.19			c0.21			0.06	0.13			c0.09
v/s Ratio Perm			0.01									
v/c Ratio		0.82	0.05		0.84			0.64	0.71			0.72
Uniform Delay, d1		38.9	31.7		37.9			46.7	41.3			44.7
Progression Factor		1.00	1.00		1.00			1.00	1.00			1.00
Incremental Delay, d2		12.1	0.1		12.8			7.7	3.7			10.2
Delay (s)		50.9	31.7		50.7			54.4	44.9			54.9
Level of Service		D	C		D			D	D			D
Approach Delay (s/veh)		47.6			50.7				46.8			
Approach LOS		D			D				D			

Intersection Summary			
HCM 2000 Control Delay (s/veh)	47.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	107.3	Sum of lost time (s)	21.2
Intersection Capacity Utilization	76.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	394	108
Future Volume (vph)	394	108
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.7	
Lane Util. Factor	0.95	
Frt	0.97	
Flt Protected	1.00	
Satd. Flow (prot)	3392	
Flt Permitted	1.00	
Satd. Flow (perm)	3392	
Peak-hour factor, PHF	0.94	0.94
Adj. Flow (vph)	419	115
RTOR Reduction (vph)	21	0
Lane Group Flow (vph)	513	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	23.2	
Effective Green, g (s)	23.2	
Actuated g/C Ratio	0.22	
Clearance Time (s)	5.7	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	733	
v/s Ratio Prot	c0.15	
v/s Ratio Perm		
v/c Ratio	0.70	
Uniform Delay, d1	38.8	
Progression Factor	1.00	
Incremental Delay, d2	2.9	
Delay (s)	41.8	
Level of Service	D	
Approach Delay (s/veh)	44.9	
Approach LOS	D	

Intersection Summary

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	36	75	52	14	78	16	54	85	7	23	104	28
Future Vol, veh/h	36	75	52	14	78	16	54	85	7	23	104	28
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	42	87	60	16	91	19	63	99	8	27	121	33
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay, s/veh	9.5	9.4	9.7	9.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	37%	100%	0%	100%	0%	15%
Vol Thru, %	58%	0%	59%	0%	83%	67%
Vol Right, %	5%	0%	41%	0%	17%	18%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	146	36	127	14	94	155
LT Vol	54	36	0	14	0	23
Through Vol	85	0	75	0	78	104
RT Vol	7	0	52	0	16	28
Lane Flow Rate	170	42	148	16	109	180
Geometry Grp	2	5	5	5	5	2
Degree of Util (X)	0.238	0.071	0.216	0.028	0.168	0.246
Departure Headway (Hd)	5.046	6.068	5.273	6.144	5.517	4.913
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	706	586	675	578	644	725
Service Time	3.12	3.853	3.057	3.934	3.307	2.986
HCM Lane V/C Ratio	0.241	0.072	0.219	0.028	0.169	0.248
HCM Control Delay, s/veh	9.7	9.3	9.5	9.1	9.4	9.6
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.9	0.2	0.8	0.1	0.6	1

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Vol, veh/h	22	49	4	48	520	5	419	51
Future Vol, veh/h	22	49	4	48	520	5	419	51
Conflicting Peds, #/hr	1	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None
Storage Length	0	115	-	290	-	100	-	-
Veh in Median Storage, #	0	-	-	-	0	-	0	-
Grade, %	0	-	-	-	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87
Heavy Vehicles, %	3	3	3	3	3	3	3	3
Mvmt Flow	25	56	5	55	598	6	482	59

Major/Minor	Minor2		Major1			Major2		
Conflicting Flow All	942	270	540	540	0	598	-	0
Stage 1	522	-	-	-	-	-	-	-
Stage 2	419	-	-	-	-	-	-	-
Critical Hdwy	6.86	6.96	6.46	4.16	-	6.46	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.53	2.23	-	2.53	-	-
Pot Cap-1 Maneuver	260	725	649	1017	-	596	-	-
Stage 1	557	-	-	-	-	-	-	-
Stage 2	628	-	-	-	-	-	-	-
Platoon blocked, %					-		-	-
Mov Cap-1 Maneuver	241	725	965	965	-	596	-	-
Mov Cap-2 Maneuver	241	-	-	-	-	-	-	-
Stage 1	522	-	-	-	-	-	-	-
Stage 2	622	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	13.89	0.82	0.12
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBU	SBT	SBR
Capacity (veh/h)	965	-	241	725	596	-	-
HCM Lane V/C Ratio	0.062	-	0.105	0.078	0.01	-	-
HCM Ctrl Dly (s/v)	9	-	21.7	10.4	11.1	-	-
HCM Lane LOS	A	-	C	B	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.3	0.3	0	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Vol, veh/h	31	5	1	20	537	4	428	38
Future Vol, veh/h	31	5	1	20	537	4	428	38
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None
Storage Length	0	-	-	80	-	300	-	-
Veh in Median Storage, #	0	-	-	-	0	-	0	-
Grade, %	0	-	-	-	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87
Heavy Vehicles, %	3	3	3	3	3	3	3	3
Mvmt Flow	36	6	1	23	617	5	492	44

Major/Minor	Minor2		Major1			Major2		
Conflicting Flow All	880	268	536	536	0	617	-	0
Stage 1	523	-	-	-	-	-	-	-
Stage 2	357	-	-	-	-	-	-	-
Critical Hdwy	6.86	6.96	6.46	4.16	-	6.46	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.53	2.23	-	2.53	-	-
Pot Cap-1 Maneuver	285	727	653	1022	-	579	-	-
Stage 1	556	-	-	-	-	-	-	-
Stage 2	676	-	-	-	-	-	-	-
Platoon blocked, %					-		-	-
Mov Cap-1 Maneuver	276	727	994	994	-	579	-	-
Mov Cap-2 Maneuver	276	-	-	-	-	-	-	-
Stage 1	543	-	-	-	-	-	-	-
Stage 2	671	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	18.83	0.33	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	994	-	302	579	-	-
HCM Lane V/C Ratio	0.024	-	0.137	0.008	-	-
HCM Ctrl Dly (s/v)	8.7	-	18.8	11.3	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	0	-	-

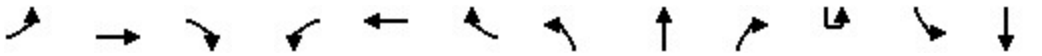
Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	57	356	336	33	14	52
Future Vol, veh/h	57	356	336	33	14	52
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	165	-	-	0	200	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	61	379	357	35	15	55

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	393	0	-	0	857	357
Stage 1	-	-	-	-	357	-
Stage 2	-	-	-	-	500	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1161	-	-	-	326	684
Stage 1	-	-	-	-	706	-
Stage 2	-	-	-	-	607	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1161	-	-	-	309	684
Mov Cap-2 Maneuver	-	-	-	-	309	-
Stage 1	-	-	-	-	669	-
Stage 2	-	-	-	-	607	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	1.14	0	12.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1161	-	-	-	309	684
HCM Lane V/C Ratio	0.052	-	-	-	0.048	0.081
HCM Ctrl Dly (s/v)	8.3	-	-	-	17.2	10.7
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2	0.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	97	239	44	42	252	82	58	371	38	1	84	267
Future Volume (veh/h)	97	239	44	42	252	82	58	371	38	1	84	267
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0		0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Work Zone On Approach		No			No			No				No
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856		1856	1856
Adj Flow Rate, veh/h	103	254	47	45	268	87	62	395	40		89	284
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		0.94	0.94
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3		3	3
Cap, veh/h	159	380	69	159	386	123	132	1342	135		153	1114
Arrive On Green	0.09	0.13	0.13	0.09	0.15	0.15	0.07	0.42	0.42		0.09	0.40
Sat Flow, veh/h	1767	2978	543	1767	2632	836	1767	3234	326		1767	2761
Grp Volume(v), veh/h	103	149	152	45	178	177	62	214	221		89	179
Grp Sat Flow(s),veh/h/ln	1767	1763	1758	1767	1763	1705	1767	1763	1797		1767	1763
Q Serve(g_s), s	4.3	6.2	6.4	1.8	7.3	7.6	2.6	6.2	6.3		3.7	5.2
Cycle Q Clear(g_c), s	4.3	6.2	6.4	1.8	7.3	7.6	2.6	6.2	6.3		3.7	5.2
Prop In Lane	1.00		0.31	1.00		0.49	1.00		0.18		1.00	
Lane Grp Cap(c), veh/h	159	225	224	159	259	250	132	732	746		153	711
V/C Ratio(X)	0.65	0.66	0.68	0.28	0.69	0.71	0.47	0.29	0.30		0.58	0.25
Avail Cap(c_a), veh/h	271	741	739	179	649	628	202	732	746		248	711
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Uniform Delay (d), s/veh	33.8	31.9	32.0	32.7	31.1	31.2	34.1	15.0	15.0		33.8	15.2
Incr Delay (d2), s/veh	4.3	3.3	3.6	1.0	3.2	3.7	2.6	1.0	1.0		3.5	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	2.6	2.7	0.8	3.1	3.1	1.1	2.3	2.3		1.6	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	38.1	35.2	35.6	33.6	34.3	34.9	36.7	16.0	16.0		37.3	16.1
LnGrp LOS	D	D	D	C	C	C	D	B	B		D	B
Approach Vol, veh/h		404			400			497				449
Approach Delay, s/veh		36.1			34.5			18.6				20.3
Approach LOS		D			C			B				C

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.8	37.9	12.6	15.5	11.7	37.0	11.1	17.0
Change Period (Y+Rc), s	4.2	6.0	5.7	* 5.7	6.0	* 6	4.2	5.7
Max Green Setting (Gmax), s	10.8	29.0	7.8	* 32	8.8	* 31	11.8	28.3
Max Q Clear Time (g_c+I1), s	5.7	8.3	3.8	8.4	4.6	7.4	6.3	9.6
Green Ext Time (p_c), s	0.1	2.0	0.0	1.5	0.0	1.7	0.1	1.7

Intersection Summary	
HCM 7th Control Delay, s/veh	26.7
HCM 7th LOS	C

Notes

User approved ignoring U-Turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	71
Future Volume (veh/h)	71
Initial Q (Qb), veh	0
Lane Width Adj.	1.00
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1856
Adj Flow Rate, veh/h	76
Peak Hour Factor	0.94
Percent Heavy Veh, %	3
Cap, veh/h	293
Arrive On Green	0.40
Sat Flow, veh/h	726
Grp Volume(v), veh/h	181
Grp Sat Flow(s),veh/h/ln	1724
Q Serve(g_s), s	5.4
Cycle Q Clear(g_c), s	5.4
Prop In Lane	0.42
Lane Grp Cap(c), veh/h	696
V/C Ratio(X)	0.26
Avail Cap(c_a), veh/h	696
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	15.3
Incr Delay (d2), s/veh	0.9
Initial Q Delay(d3), s/veh	0.0
%ile BackOfQ(50%),veh/ln	1.9
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	16.2
LnGrp LOS	B
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	15	310	20	17	338	24	11	39	25	16	30	36
Future Vol, veh/h	15	310	20	17	338	24	11	39	25	16	30	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	17	344	22	19	376	27	12	43	28	18	33	40

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	402	0	0	367	0	0	819	829	356	826	827	389
Stage 1	-	-	-	-	-	-	389	389	-	427	427	-
Stage 2	-	-	-	-	-	-	430	440	-	399	400	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1151	-	-	1186	-	-	293	305	686	290	306	657
Stage 1	-	-	-	-	-	-	633	607	-	604	584	-
Stage 2	-	-	-	-	-	-	601	576	-	625	600	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1151	-	-	1186	-	-	236	293	686	229	294	657
Mov Cap-2 Maneuver	-	-	-	-	-	-	236	293	-	229	294	-
Stage 1	-	-	-	-	-	-	621	596	-	592	572	-
Stage 2	-	-	-	-	-	-	521	564	-	546	589	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.36	0.36	18.62	18.26
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	347	77	-	-	80	-	-	362
HCM Lane V/C Ratio	0.24	0.014	-	-	0.016	-	-	0.252
HCM Ctrl Dly (s/v)	18.6	8.2	0	-	8.1	0	-	18.3
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.9	0	-	-	0	-	-	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	89	226	102	80	302	50	11	167	316	49	16	70
Future Volume (vph)	89	226	102	80	302	50	11	167	316	49	16	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.3	5.3	4.2	6.0			4.2	5.7			4.2
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00	0.95			1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00			1.00	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00			1.00
Frt	1.00	1.00	0.85	1.00	0.98			1.00	0.98			1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (prot)	1752	1845	1548	1752	1802			1752	3434			1752
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (perm)	1752	1845	1548	1752	1802			1752	3434			1752
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	101	257	116	91	343	57	13	190	359	56	18	80
RTOR Reduction (vph)	0	0	80	0	5	0	0	0	11	0	0	0
Lane Group Flow (vph)	101	257	36	91	395	0	0	203	404	0	0	98
Confl. Peds. (#/hr)			1			1						
Turn Type	Prot	NA	Perm	Prot	NA		Prot	Prot	NA		Prot	Prot
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases			4									
Actuated Green, G (s)	10.1	29.3	29.3	8.3	26.8			16.0	29.5			8.4
Effective Green, g (s)	10.1	29.3	29.3	8.3	26.8			16.0	29.5			8.4
Actuated g/C Ratio	0.11	0.31	0.31	0.09	0.28			0.17	0.31			0.09
Clearance Time (s)	4.2	5.3	5.3	4.2	6.0			4.2	5.7			4.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0			3.0
Lane Grp Cap (vph)	186	569	477	153	508			295	1067			155
v/s Ratio Prot	c0.06	0.14		0.05	c0.22			c0.12	0.12			0.06
v/s Ratio Perm			0.02									
v/c Ratio	0.54	0.45	0.08	0.59	0.78			0.69	0.38			0.63
Uniform Delay, d1	40.2	26.3	23.2	41.7	31.3			37.1	25.5			41.8
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00			1.00
Incremental Delay, d2	3.2	0.6	0.1	6.1	7.4			6.5	0.2			8.1
Delay (s)	43.4	26.9	23.3	47.8	38.7			43.6	25.8			49.9
Level of Service	D	C	C	D	D			D	C			D
Approach Delay (s/veh)		29.5			40.4				31.6			
Approach LOS		C			D				C			

Intersection Summary			
HCM 2000 Control Delay (s/veh)	34.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	94.9	Sum of lost time (s)	20.1
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	360	125
Future Volume (vph)	360	125
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.7	
Lane Util. Factor	0.95	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	0.96	
Flt Protected	1.00	
Satd. Flow (prot)	3369	
Flt Permitted	1.00	
Satd. Flow (perm)	3369	
Peak-hour factor, PHF	0.88	0.88
Adj. Flow (vph)	409	142
RTOR Reduction (vph)	31	0
Lane Group Flow (vph)	520	0
Confl. Peds. (#/hr)		
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	21.9	
Effective Green, g (s)	21.9	
Actuated g/C Ratio	0.23	
Clearance Time (s)	5.7	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	777	
v/s Ratio Prot	c0.15	
v/s Ratio Perm		
v/c Ratio	0.67	
Uniform Delay, d1	33.2	
Progression Factor	1.00	
Incremental Delay, d2	2.2	
Delay (s)	35.4	
Level of Service	D	
Approach Delay (s/veh)	37.6	
Approach LOS	D	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	77	255	69	63	238	63	12	88	341	83	19	136
Future Volume (vph)	77	255	69	63	238	63	12	88	341	83	19	136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.3	5.3	4.2	6.0			4.2	5.7			4.2
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00	0.95			1.00
Frt	1.00	1.00	0.85	1.00	0.97			1.00	0.97			1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (prot)	1752	1845	1568	1752	1787			1752	3402			1752
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (perm)	1752	1845	1568	1752	1787			1752	3402			1752
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	82	271	73	67	253	67	13	94	363	88	20	145
RTOR Reduction (vph)	0	0	53	0	8	0	0	0	19	0	0	0
Lane Group Flow (vph)	82	271	20	67	312	0	0	107	432	0	0	165
Turn Type	Prot	NA	Perm	Prot	NA		Prot	Prot	NA		Prot	Prot
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases			4									
Actuated Green, G (s)	7.3	21.5	21.5	6.6	20.1			8.6	18.1			13.8
Effective Green, g (s)	7.3	21.5	21.5	6.6	20.1			8.6	18.1			13.8
Actuated g/C Ratio	0.09	0.27	0.27	0.08	0.25			0.11	0.23			0.17
Clearance Time (s)	4.2	5.3	5.3	4.2	6.0			4.2	5.7			4.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0			3.0
Lane Grp Cap (vph)	161	499	424	145	452			189	775			304
v/s Ratio Prot	c0.05	0.15		0.04	c0.17			0.06	0.13			c0.09
v/s Ratio Perm			0.01									
v/c Ratio	0.51	0.54	0.05	0.46	0.69			0.57	0.56			0.54
Uniform Delay, d1	34.3	24.8	21.4	34.7	26.8			33.6	27.1			29.9
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00			1.00
Incremental Delay, d2	2.5	1.2	0.0	2.3	4.4			3.9	0.9			2.0
Delay (s)	36.9	26.0	21.4	37.0	31.2			37.5	28.0			31.9
Level of Service	D	C	C	D	C			D	C			C
Approach Delay (s/veh)		27.3			32.2				29.8			
Approach LOS		C			C				C			

Intersection Summary			
HCM 2000 Control Delay (s/veh)	28.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	79.4	Sum of lost time (s)	20.1
Intersection Capacity Utilization	60.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	394	108
Future Volume (vph)	394	108
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.7	
Lane Util. Factor	0.95	
Frt	0.97	
Flt Protected	1.00	
Satd. Flow (prot)	3392	
Flt Permitted	1.00	
Satd. Flow (perm)	3392	
Peak-hour factor, PHF	0.94	0.94
Adj. Flow (vph)	419	115
RTOR Reduction (vph)	21	0
Lane Group Flow (vph)	513	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	23.3	
Effective Green, g (s)	23.3	
Actuated g/C Ratio	0.29	
Clearance Time (s)	5.7	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	995	
v/s Ratio Prot	c0.15	
v/s Ratio Perm		
v/c Ratio	0.52	
Uniform Delay, d1	23.4	
Progression Factor	1.00	
Incremental Delay, d2	0.5	
Delay (s)	23.8	
Level of Service	C	
Approach Delay (s/veh)	25.7	
Approach LOS	C	

Intersection Summary

Intersection: 1: Lovers Lane & Walnut Avenue

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	UL	T	TR	UL	T	TR
Maximum Queue (ft)	154	204	74	118	336	194	134	147	171	188	175
Average Queue (ft)	73	110	34	60	172	107	58	75	61	111	107
95th Queue (ft)	133	180	64	108	287	172	116	131	117	176	163
Link Distance (ft)		2564			2538		2504	2504		2548	2548
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	300		150	300		210			250		
Storage Blk Time (%)		2			1	0					
Queuing Penalty (veh)		5			1	0					

Intersection: 2: Pinkham Street & K Avenue

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	64	43	22	79	114	76
Average Queue (ft)	23	22	1	33	53	36
95th Queue (ft)	45	36	10	59	83	63
Link Distance (ft)		1330		2545	930	2251
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	200		150			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: Lovers Lane & K Avenue

Movement	EB	EB	NB	SB
Directions Served	L	R	UL	U
Maximum Queue (ft)	74	96	88	24
Average Queue (ft)	18	35	18	2
95th Queue (ft)	46	63	50	11
Link Distance (ft)	2545			
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		115	290	100
Storage Blk Time (%)		0		
Queuing Penalty (veh)		0		

Intersection: 5: Lovers Lane & Sunnyside Avenue

Movement	EB
Directions Served	LR
Maximum Queue (ft)	76
Average Queue (ft)	35
95th Queue (ft)	57
Link Distance (ft)	671
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: Caldwell Avenue & Pinkham Street

Movement	EB	WB	SB	SB
Directions Served	L	R	L	R
Maximum Queue (ft)	52	56	120	58
Average Queue (ft)	13	3	20	18
95th Queue (ft)	36	23	57	44
Link Distance (ft)		1248		1815
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	165		200	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Lovers Lane & Caldwell Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	TR	UL	T	TR
Maximum Queue (ft)	116	136	114	170	190	200	118	118	92	163	224	189
Average Queue (ft)	36	65	48	40	98	84	44	66	43	73	103	62
95th Queue (ft)	78	110	89	105	168	147	91	114	77	140	181	145
Link Distance (ft)		1215	1215		1121	1121		765	765		1291	1291
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	230			90			150			125		
Storage Blk Time (%)				0	10					2	6	
Queuing Penalty (veh)				0	6					5	6	

Intersection: 12: Road 148 & Caldwell Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	75	53	53	113
Average Queue (ft)	13	5	22	50
95th Queue (ft)	44	24	44	81
Link Distance (ft)	4000	5290	2538	2586
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 21: Bend

Movement	SB	SB
Directions Served	T	
Maximum Queue (ft)	54	78
Average Queue (ft)	3	4
95th Queue (ft)	20	32
Link Distance (ft)	765	765
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 21

Intersection: 1: Lovers Lane & Walnut Avenue

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	UL	T	TR	UL	T	TR
Maximum Queue (ft)	113	184	54	116	201	138	163	170	184	216	198
Average Queue (ft)	54	106	25	44	129	56	68	103	93	103	94
95th Queue (ft)	100	172	51	85	203	108	123	161	165	165	155
Link Distance (ft)		2564			2538		2504	2504		2548	2548
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	300		150	300		210			250		
Storage Blk Time (%)		2									
Queuing Penalty (veh)		3									

Intersection: 2: Pinkham Street & K Avenue

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	46	63	25	66	77	76
Average Queue (ft)	17	25	10	23	36	39
95th Queue (ft)	35	44	28	44	57	65
Link Distance (ft)		1330		2545	930	2251
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	200		150			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: Lovers Lane & K Avenue

Movement	EB	EB	NB	NB	SB	SB	SB
Directions Served	L	R	UL	T	U	T	TR
Maximum Queue (ft)	46	71	53	23	24	33	22
Average Queue (ft)	17	26	14	1	2	1	1
95th Queue (ft)	41	47	40	8	11	11	7
Link Distance (ft)	2545			1240		2504	2504
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		115	290		100		
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 5: Lovers Lane & Sunnyside Avenue

Movement	EB	NB	SB	SB
Directions Served	LR	UL	U	TR
Maximum Queue (ft)	54	26	25	44
Average Queue (ft)	26	5	2	1
95th Queue (ft)	52	21	12	14
Link Distance (ft)	671			1240
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		80	300	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 10: Caldwell Avenue & Pinkham Street

Movement	EB	SB	SB
Directions Served	L	L	R
Maximum Queue (ft)	74	49	69
Average Queue (ft)	18	12	25
95th Queue (ft)	44	34	54
Link Distance (ft)			1815
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	165	200	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Lovers Lane & Caldwell Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	TR	UL	T	TR
Maximum Queue (ft)	135	133	114	74	157	140	110	140	160	116	154	126
Average Queue (ft)	66	84	59	33	78	76	48	85	73	67	70	41
95th Queue (ft)	112	129	107	69	139	130	90	121	121	104	135	88
Link Distance (ft)		1215	1215		1121	1121		765	765		1291	1291
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	230			90			150			125		
Storage Blk Time (%)				0	8			0		0	1	
Queuing Penalty (veh)				0	3			0		0	1	

Intersection: 12: Road 148 & Caldwell Avenue

Movement	EB	B19	B19	WB	NB	SB
Directions Served	LTR	T		LTR	LTR	LTR
Maximum Queue (ft)	53	20	55	50	54	72
Average Queue (ft)	3	1	2	3	30	33
95th Queue (ft)	20	7	18	21	50	62
Link Distance (ft)	4000	1121	1121	5290	2538	2586
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Network Summary

Network wide Queuing Penalty: 8

Appendix H: Corner Sight Distance

Clements Ranch - City of Visalia
Corner Sight Distance Evaluation - Sunnyside Avenue

Exhibit H1

LEGEND:

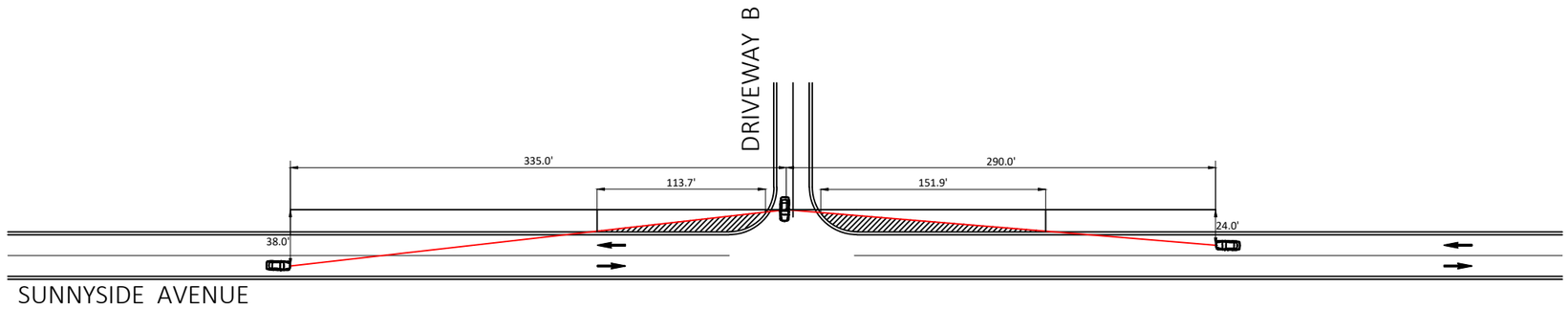
NO OBSTRUCTIONS GREATER THAN 24" ABOVE STREET GRADE SHOULD BE PERMITTED WITHIN THESE AREAS.

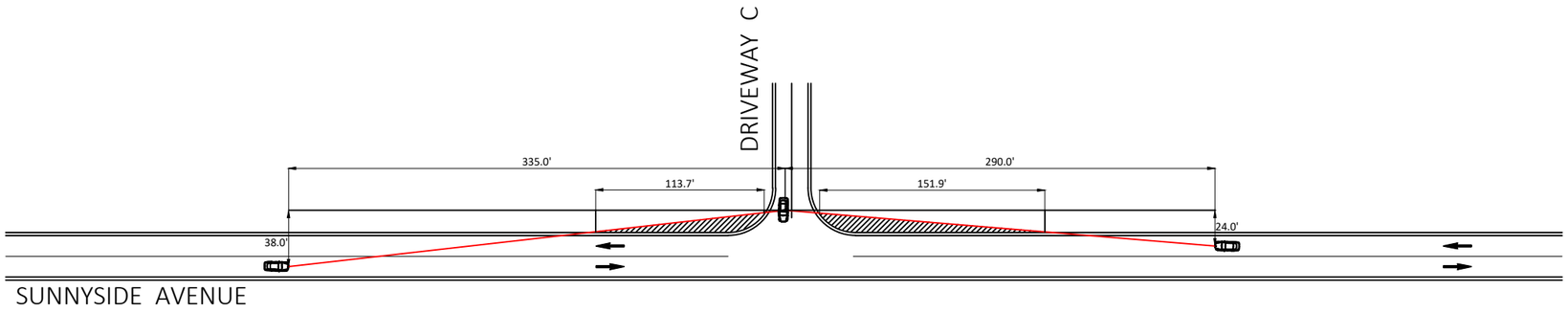
ROADWAY: SUNNYSIDE AVENUE

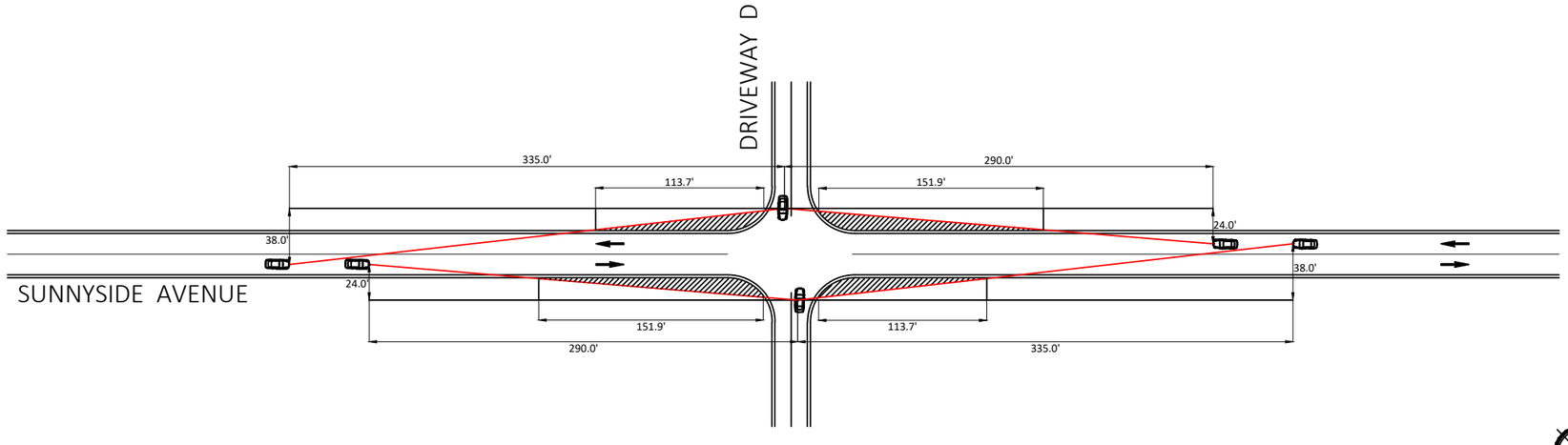
DESIGN SPEED: 30 MPH

REQUIRED CSD (LEFT-TURN): 335 FT MIN

REQUIRED CSD (RIGHT-TURN): 290 FT MIN







JLB TRAFFIC ENGINEERING, INC.
516 W. Shaw Ave., Ste. 103, Fresno, CA 93704
PHONE:(559) 570-8991, EMAIL: info@JLBtraffic.com, www.JLBtraffic.com

(009-031) 09/23/22 - CS/AB

Not To Scale

Clements Ranch - City of Visalia
Corner Sight Distance Evaluation - Lovers Lane

Exhibit H2

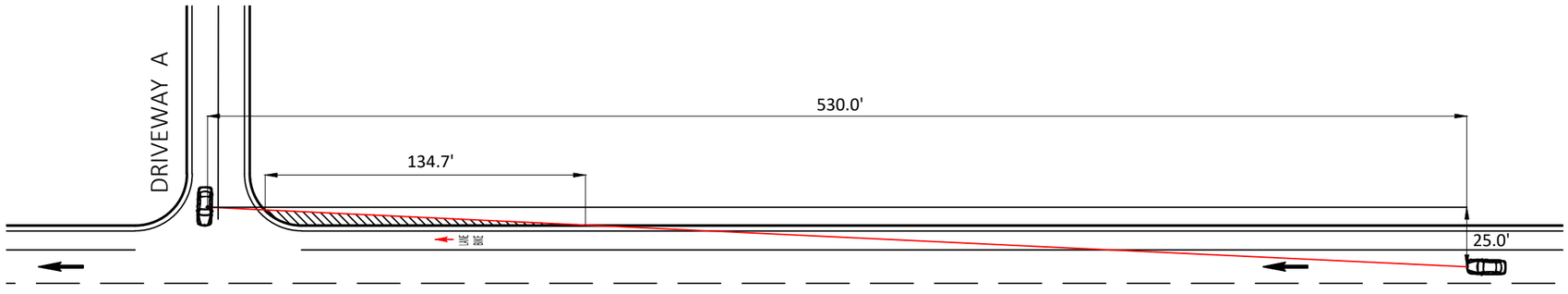
LEGEND:

NO OBSTRUCTIONS GREATER THAN 24" ABOVE STREET GRADE SHOULD BE PERMITTED WITHIN THESE AREAS.

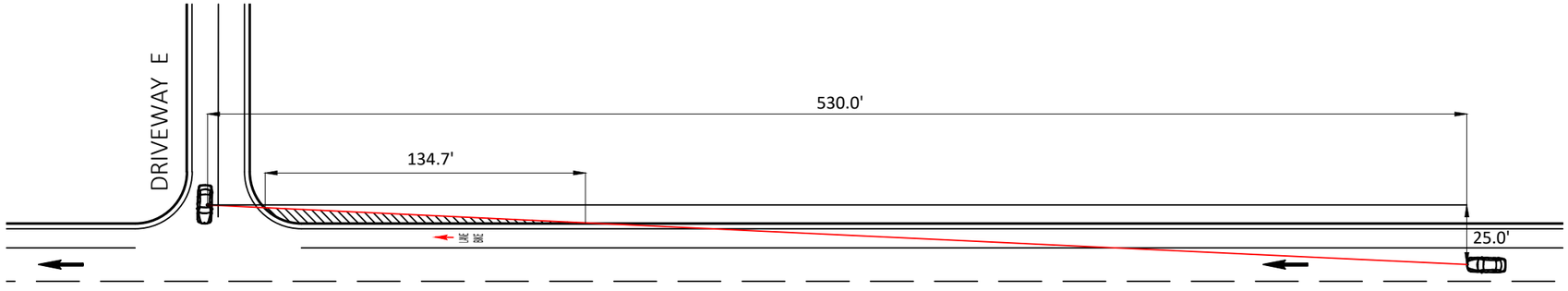
ROADWAY: LOVERS LANE

DESIGN SPEED: 55 MPH

REQUIRED CSD (RIGHT-TURN): 530 FT MIN



LOVERS LANE



LOVERS LANE

JLB TRAFFIC ENGINEERING, INC.
516 W. Shaw Ave., Ste. 103, Fresno, CA 93704
PHONE:(559) 570-8991, EMAIL: info@JLBtraffic.com, www.JLBtraffic.com

Not To Scale

(009-031)02/09/26 - DCC

Appendix I: Opening Year plus Phase 1 Traffic Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	96	226	107	82	302	50	11	194	351	54	16	70
Future Volume (vph)	96	226	107	82	302	50	11	194	351	54	16	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3		6.0			4.2	5.7			4.2
Lane Util. Factor		1.00	1.00		1.00			1.00	0.95			1.00
Frpb, ped/bikes		1.00	0.99		1.00			1.00	1.00			1.00
Flpb, ped/bikes		1.00	1.00		1.00			1.00	1.00			1.00
Frt		1.00	0.85		0.98			1.00	0.98			1.00
Flt Protected		0.99	1.00		0.99			0.95	1.00			0.95
Satd. Flow (prot)		1818	1547		1796			1752	3435			1752
Flt Permitted		0.99	1.00		0.99			0.95	1.00			0.95
Satd. Flow (perm)		1818	1547		1796			1752	3435			1752
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	109	257	122	93	343	57	13	220	399	61	18	80
RTOR Reduction (vph)	0	0	81	0	4	0	0	0	9	0	0	0
Lane Group Flow (vph)	0	366	41	0	489	0	0	233	451	0	0	98
Confl. Peds. (#/hr)			1			1						
Turn Type	Split	NA	Perm	Split	NA		Prot	Prot	NA		Prot	Prot
Protected Phases	4	4		8	8		5	5	2		1	1
Permitted Phases			4									
Actuated Green, G (s)		28.4	28.4		35.1			16.9	30.7			12.1
Effective Green, g (s)		28.4	28.4		35.1			16.9	30.7			12.1
Actuated g/C Ratio		0.22	0.22		0.28			0.13	0.24			0.09
Clearance Time (s)		5.3	5.3		6.0			4.2	5.7			4.2
Vehicle Extension (s)		3.0	3.0		3.0			3.0	3.0			3.0
Lane Grp Cap (vph)		404	344		494			232	827			166
v/s Ratio Prot		c0.20			c0.27			c0.13	0.13			0.06
v/s Ratio Perm			0.03									
v/c Ratio		0.91	0.12		0.99			1.00	0.55			0.59
Uniform Delay, d1		48.2	39.6		46.0			55.3	42.3			55.3
Progression Factor		1.00	1.00		1.00			1.00	1.00			1.00
Incremental Delay, d2		23.3	0.2		37.9			60.2	0.7			5.5
Delay (s)		71.5	39.7		84.0			115.5	43.0			60.8
Level of Service		E	D		F			F	D			E
Approach Delay (s/veh)		63.6			84.0				67.4			
Approach LOS		E			F				E			

Intersection Summary			
HCM 2000 Control Delay (s/veh)	66.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	127.5	Sum of lost time (s)	21.2
Intersection Capacity Utilization	84.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	381	125
Future Volume (vph)	381	125
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.7	
Lane Util. Factor	0.95	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	0.96	
Flt Protected	1.00	
Satd. Flow (prot)	3375	
Flt Permitted	1.00	
Satd. Flow (perm)	3375	
Peak-hour factor, PHF	0.88	0.88
Adj. Flow (vph)	433	142
RTOR Reduction (vph)	25	0
Lane Group Flow (vph)	550	0
Confl. Peds. (#/hr)		
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	25.9	
Effective Green, g (s)	25.9	
Actuated g/C Ratio	0.20	
Clearance Time (s)	5.7	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	685	
v/s Ratio Prot	c0.16	
v/s Ratio Perm		
v/c Ratio	0.80	
Uniform Delay, d1	48.4	
Progression Factor	1.00	
Incremental Delay, d2	6.8	
Delay (s)	55.2	
Level of Service	E	
Approach Delay (s/veh)	56.0	
Approach LOS	E	

Intersection Summary

Intersection	
Intersection Delay, s/veh	14.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	71	68	40	5	112	57	92	156	6	28	81	52
Future Vol, veh/h	71	68	40	5	112	57	92	156	6	28	81	52
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	97	93	55	7	153	78	126	214	8	38	111	71
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay, s/veh	11.8	14	17.1	12.7
HCM LOS	B	B	C	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	36%	100%	0%	100%	0%	17%
Vol Thru, %	61%	0%	63%	0%	66%	50%
Vol Right, %	2%	0%	37%	0%	34%	32%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	254	71	108	5	169	161
LT Vol	92	71	0	5	0	28
Through Vol	156	0	68	0	112	81
RT Vol	6	0	40	0	57	52
Lane Flow Rate	348	97	148	7	232	221
Geometry Grp	2	5	5	5	5	2
Degree of Util (X)	0.581	0.198	0.269	0.014	0.423	0.372
Departure Headway (Hd)	6.015	7.316	6.552	7.332	6.578	6.065
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	602	490	549	489	549	593
Service Time	4.035	5.059	4.281	5.057	4.303	4.105
HCM Lane V/C Ratio	0.578	0.198	0.27	0.014	0.423	0.373
HCM Control Delay, s/veh	17.1	11.9	11.7	10.2	14.1	12.7
HCM Lane LOS	C	B	B	B	B	B
HCM 95th-tile Q	3.7	0.7	1.1	0	2.1	1.7

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Vol, veh/h	28	79	1	88	472	4	574	26
Future Vol, veh/h	28	79	1	88	472	4	574	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None
Storage Length	0	115	-	290	-	100	-	-
Veh in Median Storage, #	0	-	-	-	0	-	0	-
Grade, %	0	-	-	-	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3	3	3
Mvmt Flow	32	90	1	100	536	5	652	30

Major/Minor	Minor2		Major1			Major2		
Conflicting Flow All	1147	341	682	682	0	536	-	0
Stage 1	676	-	-	-	-	-	-	-
Stage 2	470	-	-	-	-	-	-	-
Critical Hdwy	6.86	6.96	6.46	4.16	-	6.46	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.53	2.23	-	2.53	-	-
Pot Cap-1 Maneuver	191	652	527	900	-	652	-	-
Stage 1	464	-	-	-	-	-	-	-
Stage 2	592	-	-	-	-	-	-	-
Platoon blocked, %					-		-	-
Mov Cap-1 Maneuver	168	652	890	890	-	652	-	-
Mov Cap-2 Maneuver	168	-	-	-	-	-	-	-
Stage 1	411	-	-	-	-	-	-	-
Stage 2	588	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	16.62	1.52	0.07
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBU	SBT	SBR
Capacity (veh/h)	890	-	168	652	652	-	-
HCM Lane V/C Ratio	0.114	-	0.189	0.138	0.007	-	-
HCM Ctrl Dly (s/v)	9.6	-	31.3	11.4	10.6	-	-
HCM Lane LOS	A	-	D	B	B	-	-
HCM 95th %tile Q(veh)	0.4	-	0.7	0.5	0	-	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Vol, veh/h	49	0	23	51	0	66	1	7	442	16	3	31	599	22
Future Vol, veh/h	49	0	23	51	0	66	1	7	442	16	3	31	599	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	-	-	80	-	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	56	0	26	58	0	75	1	8	502	18	3	35	681	25

Major/Minor	Minor2			Minor1			Major1				Major2			
Conflicting Flow All	1041	1310	354	947	1314	260	706	707	0	0	520	520	0	0
Stage 1	771	771	-	530	530	-	-	-	-	-	-	-	-	-
Stage 2	269	539	-	418	784	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.58	6.58	6.98	7.58	6.58	6.98	6.48	4.18	-	-	6.48	4.18	-	-
Critical Hdwy Stg 1	6.58	5.58	-	6.58	5.58	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.58	5.58	-	6.58	5.58	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.54	4.04	3.34	3.54	4.04	3.34	2.54	2.24	-	-	2.54	2.24	-	-
Pot Cap-1 Maneuver	182	155	637	213	154	732	505	874	-	-	664	1028	-	-
Stage 1	354	403	-	496	520	-	-	-	-	-	-	-	-	-
Stage 2	708	515	-	578	397	-	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-			-	-
Mov Cap-1 Maneuver	155	147	636	194	146	732	794	794	-	-	966	966	-	-
Mov Cap-2 Maneuver	155	147	-	194	146	-	-	-	-	-	-	-	-	-
Stage 1	340	386	-	490	514	-	-	-	-	-	-	-	-	-
Stage 2	628	509	-	532	381	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	34.03	22.99	0.16	0.46
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	794	-	-	204	331	966	-	-
HCM Lane V/C Ratio	0.011	-	-	0.401	0.402	0.04	-	-
HCM Ctrl Dly (s/v)	9.6	-	-	34	23	8.9	-	-
HCM Lane LOS	A	-	-	D	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1.8	1.9	0.1	-	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	37	91	0	0	26
Future Vol, veh/h	10	37	91	0	0	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	11	42	103	0	0	30

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	103	0	-	0	168	103
Stage 1	-	-	-	-	103	-
Stage 2	-	-	-	-	65	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1482	-	-	-	820	949
Stage 1	-	-	-	-	918	-
Stage 2	-	-	-	-	955	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1482	-	-	-	813	949
Mov Cap-2 Maneuver	-	-	-	-	813	-
Stage 1	-	-	-	-	911	-
Stage 2	-	-	-	-	955	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	1.58	0	8.92
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	383	-	-	-	949
HCM Lane V/C Ratio	0.008	-	-	-	0.031
HCM Ctrl Dly (s/v)	7.4	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	7.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	19	0	18	0	0	0	39	0	0	0	0	52
Future Vol, veh/h	19	0	18	0	0	0	39	0	0	0	0	52
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	22	0	20	0	0	0	44	0	0	0	0	59

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1	0	0	20	0	0	55	55	10	44	65	1
Stage 1	-	-	-	-	-	-	53	53	-	1	1	-
Stage 2	-	-	-	-	-	-	1	1	-	43	64	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1615	-	-	1589	-	-	941	835	1068	955	824	1080
Stage 1	-	-	-	-	-	-	957	848	-	1019	893	-
Stage 2	-	-	-	-	-	-	1019	893	-	969	840	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1615	-	-	1589	-	-	877	823	1068	942	813	1080
Mov Cap-2 Maneuver	-	-	-	-	-	-	877	823	-	942	813	-
Stage 1	-	-	-	-	-	-	944	837	-	1019	893	-
Stage 2	-	-	-	-	-	-	964	893	-	955	829	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	3.73	0	9.32	8.52
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	877	770	-	-	1589	-	-	1080
HCM Lane V/C Ratio	0.051	0.013	-	-	-	-	-	0.055
HCM Ctrl Dly (s/v)	9.3	7.3	0	-	0	-	-	8.5
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	32	434	8	0	674
Future Vol, veh/h	0	32	434	8	0	674
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	36	493	9	0	766

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	251	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	746	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	746	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.08	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	746	-
HCM Lane V/C Ratio	-	-	0.049	-
HCM Ctrl Dly (s/v)	-	-	10.1	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.2	-

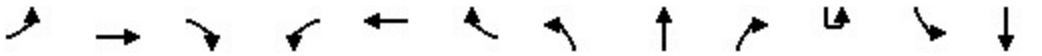
Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	46	236	392	36	35	51
Future Vol, veh/h	46	236	392	36	35	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	165	-	-	0	200	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	50	257	426	39	38	55

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	465	0	-	0	783	426
Stage 1	-	-	-	-	426	-
Stage 2	-	-	-	-	357	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1091	-	-	-	361	626
Stage 1	-	-	-	-	657	-
Stage 2	-	-	-	-	706	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1091	-	-	-	345	626
Mov Cap-2 Maneuver	-	-	-	-	345	-
Stage 1	-	-	-	-	626	-
Stage 2	-	-	-	-	706	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	1.38	0	13.52
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1091	-	-	-	345	626
HCM Lane V/C Ratio	0.046	-	-	-	0.11	0.089
HCM Ctrl Dly (s/v)	8.5	-	-	-	16.7	11.3
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4	0.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	50	175	69	58	290	92	56	321	49	1	100	467
Future Volume (veh/h)	50	175	69	58	290	92	56	321	49	1	100	467
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0		0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Work Zone On Approach		No			No			No				No
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856		1856	1856
Adj Flow Rate, veh/h	56	194	77	64	322	102	62	357	54		111	519
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90		0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3		3	3
Cap, veh/h	123	328	126	171	469	146	129	1265	190		158	1195
Arrive On Green	0.07	0.13	0.13	0.10	0.18	0.18	0.07	0.41	0.41		0.09	0.41
Sat Flow, veh/h	1767	2491	955	1767	2641	822	1767	3074	461		1767	2948
Grp Volume(v), veh/h	56	135	136	64	213	211	62	203	208		111	309
Grp Sat Flow(s),veh/h/ln	1767	1763	1684	1767	1763	1699	1767	1763	1773		1767	1763
Q Serve(g_s), s	2.4	5.8	6.1	2.7	9.0	9.3	2.7	6.1	6.2		4.9	10.1
Cycle Q Clear(g_c), s	2.4	5.8	6.1	2.7	9.0	9.3	2.7	6.1	6.2		4.9	10.1
Prop In Lane	1.00		0.57	1.00		0.48	1.00		0.26		1.00	
Lane Grp Cap(c), veh/h	123	232	222	171	313	302	129	725	729		158	714
V/C Ratio(X)	0.46	0.58	0.61	0.38	0.68	0.70	0.48	0.28	0.28		0.70	0.43
Avail Cap(c_a), veh/h	195	663	634	195	663	640	195	725	729		284	714
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Uniform Delay (d), s/veh	35.6	32.6	32.7	33.8	30.7	30.8	35.5	15.6	15.6		35.3	17.1
Incr Delay (d2), s/veh	2.6	2.3	2.7	1.4	2.6	2.9	2.8	1.0	1.0		5.6	1.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.4	2.4	1.1	3.7	3.7	1.2	2.3	2.3		2.2	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	38.3	34.9	35.4	35.1	33.3	33.7	38.2	16.6	16.6		40.8	19.0
LnGrp LOS	D	C	D	D	C	C	D	B	B		D	B
Approach Vol, veh/h		327			488			473				730
Approach Delay, s/veh		35.7			33.7			19.4				22.4
Approach LOS		D			C			B				C

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.3	38.8	13.4	16.2	11.8	38.3	9.7	19.8
Change Period (Y+Rc), s	4.2	6.0	5.7	* 5.7	6.0	* 6	4.2	5.7
Max Green Setting (Gmax), s	12.8	28.3	8.8	* 30	8.8	* 32	8.8	30.0
Max Q Clear Time (g_c+I1), s	6.9	8.2	4.7	8.1	4.7	12.2	4.4	11.3
Green Ext Time (p_c), s	0.1	1.9	0.0	1.3	0.0	3.1	0.0	2.0

Intersection Summary	
HCM 7th Control Delay, s/veh	26.6
HCM 7th LOS	C

Notes

User approved ignoring U-Turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	90
Future Volume (veh/h)	90
Initial Q (Qb), veh	0
Lane Width Adj.	1.00
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1856
Adj Flow Rate, veh/h	100
Peak Hour Factor	0.90
Percent Heavy Veh, %	3
Cap, veh/h	229
Arrive On Green	0.41
Sat Flow, veh/h	566
Grp Volume(v), veh/h	310
Grp Sat Flow(s),veh/h/ln	1751
Q Serve(g_s), s	10.2
Cycle Q Clear(g_c), s	10.2
Prop In Lane	0.32
Lane Grp Cap(c), veh/h	710
V/C Ratio(X)	0.44
Avail Cap(c_a), veh/h	710
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	17.1
Incr Delay (d2), s/veh	1.9
Initial Q Delay(d3), s/veh	0.0
%ile BackOfQ(50%),veh/ln	3.8
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	19.1
LnGrp LOS	B
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Intersection	
Int Delay, s/veh	7.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	49	253	16	11	348	18	15	22	12	30	33	77
Future Vol, veh/h	49	253	16	11	348	18	15	22	12	30	33	77
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	65	337	21	15	464	24	20	29	16	40	44	103

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	488	0	0	359	0	0	994	996	351	991	995	476
Stage 1	-	-	-	-	-	-	479	479	-	505	505	-
Stage 2	-	-	-	-	-	-	515	517	-	486	489	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1070	-	-	1194	-	-	223	243	690	224	244	587
Stage 1	-	-	-	-	-	-	566	553	-	547	538	-
Stage 2	-	-	-	-	-	-	541	532	-	561	547	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1070	-	-	1194	-	-	136	221	688	174	221	587
Mov Cap-2 Maneuver	-	-	-	-	-	-	136	221	-	174	221	-
Stage 1	-	-	-	-	-	-	523	511	-	538	529	-
Stage 2	-	-	-	-	-	-	402	523	-	476	506	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	1.32	0.23	28.75	32.88
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	216	274	-	-	52	-	-	309
HCM Lane V/C Ratio	0.303	0.061	-	-	0.012	-	-	0.604
HCM Ctrl Dly (s/v)	28.8	8.6	0	-	8.1	0	-	32.9
HCM Lane LOS	D	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	1.2	0.2	-	-	0	-	-	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	77	255	102	70	238	63	12	117	366	87	19	136
Future Volume (vph)	77	255	102	70	238	63	12	117	366	87	19	136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3		6.0			4.2	5.7			4.2
Lane Util. Factor		1.00	1.00		1.00			1.00	0.95			1.00
Frt		1.00	0.85		0.98			1.00	0.97			1.00
Flt Protected		0.99	1.00		0.99			0.95	1.00			0.95
Satd. Flow (prot)		1823	1568		1786			1752	3403			1752
Flt Permitted		0.99	1.00		0.99			0.95	1.00			0.95
Satd. Flow (perm)		1823	1568		1786			1752	3403			1752
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	82	271	109	74	253	67	13	124	389	93	20	145
RTOR Reduction (vph)	0	0	84	0	6	0	0	0	17	0	0	0
Lane Group Flow (vph)	0	353	25	0	388	0	0	137	465	0	0	165
Turn Type	Split	NA	Perm	Split	NA		Prot	Prot	NA		Prot	Prot
Protected Phases	4	4		8	8		5	5	2		1	1
Permitted Phases			4									
Actuated Green, G (s)		25.6	25.6		28.0			11.0	21.3			14.2
Effective Green, g (s)		25.6	25.6		28.0			11.0	21.3			14.2
Actuated g/C Ratio		0.23	0.23		0.25			0.10	0.19			0.13
Clearance Time (s)		5.3	5.3		6.0			4.2	5.7			4.2
Vehicle Extension (s)		3.0	3.0		3.0			3.0	3.0			3.0
Lane Grp Cap (vph)		423	363		453			174	657			225
v/s Ratio Prot		c0.19			c0.22			0.08	0.14			c0.09
v/s Ratio Perm			0.02									
v/c Ratio		0.83	0.07		0.86			0.79	0.71			0.73
Uniform Delay, d1		40.3	33.1		39.2			48.5	41.6			46.2
Progression Factor		1.00	1.00		1.00			1.00	1.00			1.00
Incremental Delay, d2		13.3	0.1		14.7			20.6	3.5			11.7
Delay (s)		53.6	33.1		53.9			69.1	45.1			57.9
Level of Service		D	C		D			E	D			E
Approach Delay (s/veh)		48.8			53.9				50.4			
Approach LOS		D			D				D			

Intersection Summary			
HCM 2000 Control Delay (s/veh)	49.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	110.3	Sum of lost time (s)	21.2
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	452	108
Future Volume (vph)	452	108
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.7	
Lane Util. Factor	0.95	
Frt	0.97	
Flt Protected	1.00	
Satd. Flow (prot)	3403	
Flt Permitted	1.00	
Satd. Flow (perm)	3403	
Peak-hour factor, PHF	0.94	0.94
Adj. Flow (vph)	481	115
RTOR Reduction (vph)	17	0
Lane Group Flow (vph)	579	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	24.5	
Effective Green, g (s)	24.5	
Actuated g/C Ratio	0.22	
Clearance Time (s)	5.7	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	755	
v/s Ratio Prot	c0.17	
v/s Ratio Perm		
v/c Ratio	0.77	
Uniform Delay, d1	40.2	
Progression Factor	1.00	
Incremental Delay, d2	4.7	
Delay (s)	44.9	
Level of Service	D	
Approach Delay (s/veh)	47.7	
Approach LOS	D	

Intersection Summary

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	36	75	52	14	78	22	54	85	7	24	106	28
Future Vol, veh/h	36	75	52	14	78	22	54	85	7	24	106	28
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	42	87	60	16	91	26	63	99	8	28	123	33
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay, s/veh	9.5	9.5	9.8	9.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	37%	100%	0%	100%	0%	15%
Vol Thru, %	58%	0%	59%	0%	78%	67%
Vol Right, %	5%	0%	41%	0%	22%	18%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	146	36	127	14	100	158
LT Vol	54	36	0	14	0	24
Through Vol	85	0	75	0	78	106
RT Vol	7	0	52	0	22	28
Lane Flow Rate	170	42	148	16	116	184
Geometry Grp	2	5	5	5	5	2
Degree of Util (X)	0.239	0.071	0.217	0.028	0.177	0.252
Departure Headway (Hd)	5.068	6.088	5.293	6.156	5.494	4.934
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	703	584	672	576	647	722
Service Time	3.145	3.875	3.079	3.949	3.287	3.009
HCM Lane V/C Ratio	0.242	0.072	0.22	0.028	0.179	0.255
HCM Control Delay, s/veh	9.8	9.3	9.6	9.1	9.5	9.7
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.9	0.2	0.8	0.1	0.6	1

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Vol, veh/h	22	50	4	54	578	5	517	51
Future Vol, veh/h	22	50	4	54	578	5	517	51
Conflicting Peds, #/hr	1	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None
Storage Length	0	115	-	290	-	100	-	-
Veh in Median Storage, #	0	-	-	-	0	-	0	-
Grade, %	0	-	-	-	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87
Heavy Vehicles, %	3	3	3	3	3	3	3	3
Mvmt Flow	25	57	5	62	664	6	594	59

Major/Minor	Minor2		Major1			Major2		
Conflicting Flow All	1102	326	653	653	0	664	-	0
Stage 1	635	-	-	-	-	-	-	-
Stage 2	467	-	-	-	-	-	-	-
Critical Hdwy	6.86	6.96	6.46	4.16	-	6.46	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.53	2.23	-	2.53	-	-
Pot Cap-1 Maneuver	204	666	550	923	-	541	-	-
Stage 1	487	-	-	-	-	-	-	-
Stage 2	595	-	-	-	-	-	-	-
Platoon blocked, %					-		-	-
Mov Cap-1 Maneuver	187	666	873	873	-	541	-	-
Mov Cap-2 Maneuver	187	-	-	-	-	-	-	-
Stage 1	450	-	-	-	-	-	-	-
Stage 2	588	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	15.92	0.86	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBU	SBT	SBR
Capacity (veh/h)	873	-	187	666	541	-	-
HCM Lane V/C Ratio	0.076	-	0.135	0.086	0.011	-	-
HCM Ctrl Dly (s/v)	9.5	-	27.3	10.9	11.7	-	-
HCM Lane LOS	A	-	D	B	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.5	0.3	0	-	-

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Vol, veh/h	31	0	5	39	0	43	1	20	558	47	4	99	428	38
Future Vol, veh/h	31	0	5	39	0	43	1	20	558	47	4	99	428	38
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	-	-	80	-	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	36	0	6	45	0	49	1	23	641	54	5	114	492	44

Major/Minor	Minor2			Minor1			Major1				Major2			
Conflicting Flow All	1120	1494	268	1199	1489	348	536	536	0	0	695	695	0	0
Stage 1	751	751	-	717	717	-	-	-	-	-	-	-	-	-
Stage 2	369	744	-	483	772	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.56	6.56	6.96	6.46	4.16	-	-	6.46	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.53	4.03	3.33	2.53	2.23	-	-	2.53	2.23	-	-
Pot Cap-1 Maneuver	160	121	727	140	122	645	653	1022	-	-	516	890	-	-
Stage 1	367	414	-	385	429	-	-	-	-	-	-	-	-	-
Stage 2	620	417	-	531	405	-	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-			-	-
Mov Cap-1 Maneuver	124	102	727	117	102	645	994	994	-	-	861	861	-	-
Mov Cap-2 Maneuver	124	102	-	117	102	-	-	-	-	-	-	-	-	-
Stage 1	316	357	-	375	419	-	-	-	-	-	-	-	-	-
Stage 2	559	407	-	454	349	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	40.96	36.82	0.29	1.78
HCM LOS	E	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	994	-	-	141	205	861	-	-
HCM Lane V/C Ratio	0.024	-	-	0.294	0.461	0.138	-	-
HCM Ctrl Dly (s/v)	8.7	-	-	41	36.8	9.8	-	-
HCM Lane LOS	A	-	-	E	E	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.1	2.2	0.5	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	30	116	64	0	0	18
Future Vol, veh/h	30	116	64	0	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	34	132	73	0	0	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	73	0	-	0	273	73
Stage 1	-	-	-	-	73	-
Stage 2	-	-	-	-	200	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1521	-	-	-	715	987
Stage 1	-	-	-	-	948	-
Stage 2	-	-	-	-	831	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1521	-	-	-	697	987
Mov Cap-2 Maneuver	-	-	-	-	697	-
Stage 1	-	-	-	-	925	-
Stage 2	-	-	-	-	831	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	1.52	0	8.73
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	370	-	-	-	987
HCM Lane V/C Ratio	0.022	-	-	-	0.021
HCM Ctrl Dly (s/v)	7.4	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	59	0	57	0	0	0	28	0	0	0	0	36
Future Vol, veh/h	59	0	57	0	0	0	28	0	0	0	0	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	67	0	65	0	0	0	32	0	0	0	0	41

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1	0	0	65	0	0	168	168	32	135	200	1
Stage 1	-	-	-	-	-	-	166	166	-	1	1	-
Stage 2	-	-	-	-	-	-	1	1	-	134	199	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1615	-	-	1531	-	-	794	723	1038	834	694	1080
Stage 1	-	-	-	-	-	-	833	759	-	1019	893	-
Stage 2	-	-	-	-	-	-	1019	893	-	867	735	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1615	-	-	1531	-	-	731	692	1038	798	664	1080
Mov Cap-2 Maneuver	-	-	-	-	-	-	731	692	-	798	664	-
Stage 1	-	-	-	-	-	-	797	726	-	1019	893	-
Stage 2	-	-	-	-	-	-	981	893	-	829	703	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	3.73	0	10.15	8.46
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	731	763	-	-	1531	-	-	1080
HCM Lane V/C Ratio	0.044	0.042	-	-	-	-	-	0.038
HCM Ctrl Dly (s/v)	10.1	7.3	0	-	0	-	-	8.5
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	21	604	23	0	473
Future Vol, veh/h	0	21	604	23	0	473
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	24	686	26	0	538

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	356	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	637	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	637	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.87	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	637	-
HCM Lane V/C Ratio	-	-	0.037	-
HCM Ctrl Dly (s/v)	-	-	10.9	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.1	-

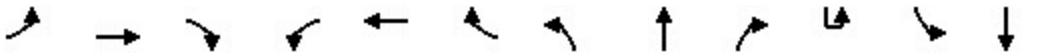
Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	57	385	355	33	15	53
Future Vol, veh/h	57	385	355	33	15	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	165	-	-	0	200	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	61	410	378	35	16	56

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	413	0	-	0	909	378
Stage 1	-	-	-	-	378	-
Stage 2	-	-	-	-	531	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1141	-	-	-	304	667
Stage 1	-	-	-	-	691	-
Stage 2	-	-	-	-	588	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1141	-	-	-	288	667
Mov Cap-2 Maneuver	-	-	-	-	288	-
Stage 1	-	-	-	-	654	-
Stage 2	-	-	-	-	588	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	1.07	0	12.51
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1141	-	-	-	288	667
HCM Lane V/C Ratio	0.053	-	-	-	0.055	0.085
HCM Ctrl Dly (s/v)	8.3	-	-	-	18.2	10.9
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2	0.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	126	239	45	42	252	90	58	404	38	1	89	282
Future Volume (veh/h)	126	239	45	42	252	90	58	404	38	1	89	282
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0		0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Work Zone On Approach		No			No			No				No
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856		1856	1856
Adj Flow Rate, veh/h	134	254	48	45	268	96	62	430	40		95	300
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		0.94	0.94
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3		3	3
Cap, veh/h	169	378	70	174	383	134	130	1339	124		154	1058
Arrive On Green	0.10	0.13	0.13	0.10	0.15	0.15	0.07	0.41	0.41		0.09	0.40
Sat Flow, veh/h	1767	2967	552	1767	2561	896	1767	3262	302		1767	2640
Grp Volume(v), veh/h	134	149	153	45	182	182	62	232	238		95	198
Grp Sat Flow(s),veh/h/ln	1767	1763	1756	1767	1763	1694	1767	1763	1801		1767	1763
Q Serve(g_s), s	5.8	6.3	6.5	1.8	7.7	8.0	2.6	7.0	7.0		4.1	5.9
Cycle Q Clear(g_c), s	5.8	6.3	6.5	1.8	7.7	8.0	2.6	7.0	7.0		4.1	5.9
Prop In Lane	1.00		0.31	1.00		0.53	1.00		0.17		1.00	
Lane Grp Cap(c), veh/h	169	225	224	174	263	253	130	723	739		154	706
V/C Ratio(X)	0.79	0.66	0.68	0.26	0.69	0.72	0.48	0.32	0.32		0.62	0.28
Avail Cap(c_a), veh/h	290	745	742	176	632	607	176	723	739		222	706
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Uniform Delay (d), s/veh	34.6	32.5	32.6	32.6	31.5	31.7	34.7	15.6	15.7		34.4	15.8
Incr Delay (d2), s/veh	8.0	3.4	3.6	0.8	3.3	3.8	2.7	1.2	1.2		4.0	1.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	2.7	2.8	0.8	3.2	3.2	1.1	2.6	2.6		1.8	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	42.6	35.8	36.2	33.4	34.8	35.4	37.4	16.8	16.8		38.4	16.8
LnGrp LOS	D	D	D	C	C	D	D	B	B		D	B
Approach Vol, veh/h		436			409			532				491
Approach Delay, s/veh		38.0			34.9			19.2				21.0
Approach LOS		D			C			B				C

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	38.1	13.4	15.7	11.8	37.3	11.7	17.4
Change Period (Y+Rc), s	4.2	6.0	5.7	* 5.7	6.0	* 6	4.2	5.7
Max Green Setting (Gmax), s	9.8	29.3	7.8	* 33	7.8	* 31	12.8	28.0
Max Q Clear Time (g_c+I1), s	6.1	9.0	3.8	8.5	4.6	8.1	7.8	10.0
Green Ext Time (p_c), s	0.1	2.2	0.0	1.5	0.0	1.9	0.1	1.7

Intersection Summary	
HCM 7th Control Delay, s/veh	27.5
HCM 7th LOS	C

Notes

User approved ignoring U-Turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	90
Future Volume (veh/h)	90
Initial Q (Qb), veh	0
Lane Width Adj.	1.00
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1856
Adj Flow Rate, veh/h	96
Peak Hour Factor	0.94
Percent Heavy Veh, %	3
Cap, veh/h	332
Arrive On Green	0.40
Sat Flow, veh/h	829
Grp Volume(v), veh/h	198
Grp Sat Flow(s),veh/h/ln	1706
Q Serve(g_s), s	6.1
Cycle Q Clear(g_c), s	6.1
Prop In Lane	0.49
Lane Grp Cap(c), veh/h	683
V/C Ratio(X)	0.29
Avail Cap(c_a), veh/h	683
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	15.9
Incr Delay (d2), s/veh	1.1
Initial Q Delay(d3), s/veh	0.0
%ile BackOfQ(50%),veh/ln	2.2
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	16.9
LnGrp LOS	B
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	15	315	20	17	345	24	12	39	25	16	30	36
Future Vol, veh/h	15	315	20	17	345	24	12	39	25	16	30	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	17	350	22	19	383	27	13	43	28	18	33	40

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	410	0	0	372	0	0	832	842	361	839	840	397
Stage 1	-	-	-	-	-	-	394	394	-	434	434	-
Stage 2	-	-	-	-	-	-	438	448	-	405	406	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1143	-	-	1181	-	-	287	300	681	284	300	651
Stage 1	-	-	-	-	-	-	629	603	-	598	579	-
Stage 2	-	-	-	-	-	-	596	571	-	620	596	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1143	-	-	1181	-	-	230	288	681	224	289	651
Mov Cap-2 Maneuver	-	-	-	-	-	-	230	288	-	224	289	-
Stage 1	-	-	-	-	-	-	617	592	-	586	567	-
Stage 2	-	-	-	-	-	-	515	559	-	541	585	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.35	0.36	19.11	18.59
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	339	76	-	-	78	-	-	355
HCM Lane V/C Ratio	0.249	0.015	-	-	0.016	-	-	0.256
HCM Ctrl Dly (s/v)	19.1	8.2	0	-	8.1	0	-	18.6
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	1	0	-	-	0	-	-	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	96	226	107	82	302	50	11	194	351	54	16	70
Future Volume (vph)	96	226	107	82	302	50	11	194	351	54	16	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.3	5.3	4.2	6.0			4.2	5.7			4.2
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00	0.95			1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00			1.00	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00			1.00
Frt	1.00	1.00	0.85	1.00	0.98			1.00	0.98			1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (prot)	1752	1845	1548	1752	1802			1752	3435			1752
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (perm)	1752	1845	1548	1752	1802			1752	3435			1752
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	109	257	122	93	343	57	13	220	399	61	18	80
RTOR Reduction (vph)	0	0	88	0	5	0	0	0	11	0	0	0
Lane Group Flow (vph)	109	257	34	93	395	0	0	233	449	0	0	98
Confl. Peds. (#/hr)			1			1						
Turn Type	Prot	NA	Perm	Prot	NA		Prot	Prot	NA		Prot	Prot
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases			4									
Actuated Green, G (s)	8.1	26.4	26.4	8.1	25.7			18.0	32.3			8.5
Effective Green, g (s)	8.1	26.4	26.4	8.1	25.7			18.0	32.3			8.5
Actuated g/C Ratio	0.09	0.28	0.28	0.09	0.27			0.19	0.34			0.09
Clearance Time (s)	4.2	5.3	5.3	4.2	6.0			4.2	5.7			4.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0			3.0
Lane Grp Cap (vph)	149	514	431	149	489			333	1171			157
v/s Ratio Prot	c0.06	0.14		0.05	c0.22			c0.13	0.13			0.06
v/s Ratio Perm			0.02									
v/c Ratio	0.73	0.50	0.08	0.62	0.81			0.70	0.38			0.62
Uniform Delay, d1	42.2	28.6	25.2	41.8	32.2			35.8	23.6			41.6
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00			1.00
Incremental Delay, d2	16.8	0.8	0.1	7.9	9.5			6.3	0.2			7.5
Delay (s)	59.1	29.4	25.3	49.7	41.7			42.1	23.9			49.1
Level of Service	E	C	C	D	D			D	C			D
Approach Delay (s/veh)		35.0			43.2				30.0			
Approach LOS		C			D				C			

Intersection Summary			
HCM 2000 Control Delay (s/veh)	35.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	94.7	Sum of lost time (s)	20.1
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	381	125
Future Volume (vph)	381	125
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.7	
Lane Util. Factor	0.95	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	0.96	
Flt Protected	1.00	
Satd. Flow (prot)	3375	
Flt Permitted	1.00	
Satd. Flow (perm)	3375	
Peak-hour factor, PHF	0.88	0.88
Adj. Flow (vph)	433	142
RTOR Reduction (vph)	28	0
Lane Group Flow (vph)	547	0
Confl. Peds. (#/hr)		
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	22.8	
Effective Green, g (s)	22.8	
Actuated g/C Ratio	0.24	
Clearance Time (s)	5.7	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	812	
v/s Ratio Prot	c0.16	
v/s Ratio Perm		
v/c Ratio	0.67	
Uniform Delay, d1	32.6	
Progression Factor	1.00	
Incremental Delay, d2	2.2	
Delay (s)	34.8	
Level of Service	C	
Approach Delay (s/veh)	36.9	
Approach LOS	D	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	49	0	23	51	0	66	1	7	442	16	3	31
Future Volume (vph)	49	0	23	51	0	66	1	7	442	16	3	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2		4.2	4.2			4.2	6.0	6.0		4.2
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	0.95	1.00		1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00		1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00		1.00
Frt	1.00	0.85		1.00	0.85			1.00	1.00	0.85		1.00
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (prot)	1736	1553		1736	1553			1735	3471	1553		1736
Flt Permitted	0.95	1.00		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (perm)	1736	1553		1736	1553			1735	3471	1553		1736
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	56	0	26	58	0	75	1	8	502	18	3	35
RTOR Reduction (vph)	0	22	0	0	65	0	0	0	0	10	0	0
Lane Group Flow (vph)	56	4	0	58	10	0	0	9	502	8	0	38
Confl. Peds. (#/hr)								1				
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Prot	NA		Prot	NA		Prot	Prot	NA	Perm	Prot	Prot
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases										2		
Actuated Green, G (s)	3.9	9.0		2.2	7.3			0.9	24.4	24.4		2.2
Effective Green, g (s)	3.9	9.0		2.2	7.3			0.9	24.4	24.4		2.2
Actuated g/C Ratio	0.07	0.16		0.04	0.13			0.02	0.43	0.43		0.04
Clearance Time (s)	4.2	4.2		4.2	4.2			4.2	6.0	6.0		4.2
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	120	247		67	201			27	1501	671		67
v/s Ratio Prot	0.03	0.00		c0.03	c0.01			0.01	0.14			c0.02
v/s Ratio Perm										0.01		
v/c Ratio	0.47	0.02		0.87	0.05			0.33	0.33	0.01		0.57
Uniform Delay, d1	25.2	20.0		27.0	21.5			27.5	10.6	9.1		26.6
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00		1.00
Incremental Delay, d2	2.9	0.0		64.8	0.1			7.2	0.1	0.0		10.6
Delay (s)	28.1	20.0		91.8	21.6			34.6	10.7	9.1		37.2
Level of Service	C	B		F	C			C	B	A		D
Approach Delay (s/veh)		25.5			52.2				11.1			
Approach LOS		C			D				B			

Intersection Summary			
HCM 2000 Control Delay (s/veh)	16.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	56.4	Sum of lost time (s)	18.6
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	599	22
Future Volume (vph)	599	22
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	0.95	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	0.99	
Flt Protected	1.00	
Satd. Flow (prot)	3450	
Flt Permitted	1.00	
Satd. Flow (perm)	3450	
Peak-hour factor, PHF	0.88	0.88
Adj. Flow (vph)	681	25
RTOR Reduction (vph)	2	0
Lane Group Flow (vph)	704	0
Confl. Peds. (#/hr)		1
Heavy Vehicles (%)	4%	4%
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	25.7	
Effective Green, g (s)	25.7	
Actuated g/C Ratio	0.46	
Clearance Time (s)	6.0	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	1572	
v/s Ratio Prot	c0.20	
v/s Ratio Perm		
v/c Ratio	0.45	
Uniform Delay, d1	10.5	
Progression Factor	1.00	
Incremental Delay, d2	0.2	
Delay (s)	10.7	
Level of Service	B	
Approach Delay (s/veh)	12.1	
Approach LOS	B	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	77	255	102	70	238	63	12	117	366	87	19	136
Future Volume (vph)	77	255	102	70	238	63	12	117	366	87	19	136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.3	5.3	4.2	6.0			4.2	5.7			4.2
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00	0.95			1.00
Frt	1.00	1.00	0.85	1.00	0.97			1.00	0.97			1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (prot)	1752	1845	1568	1752	1787			1752	3403			1752
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.95	1.00			0.95
Satd. Flow (perm)	1752	1845	1568	1752	1787			1752	3403			1752
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	82	271	109	74	253	67	13	124	389	93	20	145
RTOR Reduction (vph)	0	0	80	0	8	0	0	0	18	0	0	0
Lane Group Flow (vph)	82	271	29	74	312	0	0	137	464	0	0	165
Turn Type	Prot	NA	Perm	Prot	NA		Prot	Prot	NA		Prot	Prot
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases			4									
Actuated Green, G (s)	7.4	21.7	21.7	7.0	20.6			12.7	19.6			13.9
Effective Green, g (s)	7.4	21.7	21.7	7.0	20.6			12.7	19.6			13.9
Actuated g/C Ratio	0.09	0.27	0.27	0.09	0.25			0.16	0.24			0.17
Clearance Time (s)	4.2	5.3	5.3	4.2	6.0			4.2	5.7			4.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0			3.0
Lane Grp Cap (vph)	158	490	416	150	451			272	817			298
v/s Ratio Prot	c0.05	0.15		0.04	c0.17			0.08	0.14			c0.09
v/s Ratio Perm			0.02									
v/c Ratio	0.52	0.55	0.07	0.49	0.69			0.50	0.57			0.55
Uniform Delay, d1	35.4	25.8	22.4	35.6	27.6			31.6	27.3			31.0
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00			1.00
Incremental Delay, d2	2.9	1.4	0.1	2.5	4.5			1.5	0.9			2.2
Delay (s)	38.3	27.1	22.5	38.1	32.2			33.0	28.2			33.2
Level of Service	D	C	C	D	C			C	C			C
Approach Delay (s/veh)		28.0			33.3				29.3			
Approach LOS		C			C				C			

Intersection Summary			
HCM 2000 Control Delay (s/veh)	30.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	81.6	Sum of lost time (s)	20.1
Intersection Capacity Utilization	62.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	452	108
Future Volume (vph)	452	108
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.7	
Lane Util. Factor	0.95	
Frt	0.97	
Flt Protected	1.00	
Satd. Flow (prot)	3403	
Flt Permitted	1.00	
Satd. Flow (perm)	3403	
Peak-hour factor, PHF	0.94	0.94
Adj. Flow (vph)	481	115
RTOR Reduction (vph)	19	0
Lane Group Flow (vph)	577	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	20.8	
Effective Green, g (s)	20.8	
Actuated g/C Ratio	0.25	
Clearance Time (s)	5.7	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	867	
v/s Ratio Prot	c0.17	
v/s Ratio Perm		
v/c Ratio	0.67	
Uniform Delay, d1	27.3	
Progression Factor	1.00	
Incremental Delay, d2	1.9	
Delay (s)	29.2	
Level of Service	C	
Approach Delay (s/veh)	30.1	
Approach LOS	C	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	31	0	5	39	0	43	1	20	558	47	4	99
Future Volume (vph)	31	0	5	39	0	43	1	20	558	47	4	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2		4.2	4.2			4.2	6.0	6.0		4.2
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	0.95	1.00		1.00
Frt	1.00	0.85		1.00	0.85			1.00	1.00	0.85		1.00
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (prot)	1752	1568		1752	1568			1752	3505	1568		1752
Flt Permitted	0.95	1.00		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (perm)	1752	1568		1752	1568			1752	3505	1568		1752
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	36	0	6	45	0	49	1	23	641	54	5	114
RTOR Reduction (vph)	0	5	0	0	43	0	0	0	0	32	0	0
Lane Group Flow (vph)	36	1	0	45	6	0	0	24	641	22	0	119
Turn Type	Prot	NA		Prot	NA		Prot	Prot	NA	Perm	Prot	Prot
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases										2		
Actuated Green, G (s)	2.2	5.2		4.2	7.2			0.9	23.3	23.3		6.7
Effective Green, g (s)	2.2	5.2		4.2	7.2			0.9	23.3	23.3		6.7
Actuated g/C Ratio	0.04	0.09		0.07	0.12			0.02	0.40	0.40		0.12
Clearance Time (s)	4.2	4.2		4.2	4.2			4.2	6.0	6.0		4.2
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	66	140		126	194			27	1408	629		202
v/s Ratio Prot	0.02	0.00		c0.03	c0.00			0.01	c0.18			c0.07
v/s Ratio Perm										0.01		
v/c Ratio	0.55	0.00		0.36	0.03			0.89	0.46	0.03		0.59
Uniform Delay, d1	27.4	24.0		25.6	22.3			28.5	12.7	10.5		24.3
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00		1.00
Incremental Delay, d2	8.9	0.0		1.7	0.1			123.9	0.2	0.0		4.3
Delay (s)	36.3	24.1		27.4	22.4			152.4	12.9	10.5		28.7
Level of Service	D	C		C	C			F	B	B		C
Approach Delay (s/veh)		34.6			24.8				17.4			
Approach LOS		C			C				B			

Intersection Summary			
HCM 2000 Control Delay (s/veh)	16.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	58.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	42.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	428	38
Future Volume (vph)	428	38
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	0.95	
Frt	0.99	
Flt Protected	1.00	
Satd. Flow (prot)	3462	
Flt Permitted	1.00	
Satd. Flow (perm)	3462	
Peak-hour factor, PHF	0.87	0.87
Adj. Flow (vph)	492	44
RTOR Reduction (vph)	5	0
Lane Group Flow (vph)	531	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	29.1	
Effective Green, g (s)	29.1	
Actuated g/C Ratio	0.50	
Clearance Time (s)	6.0	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	1736	
v/s Ratio Prot	0.15	
v/s Ratio Perm		
v/c Ratio	0.31	
Uniform Delay, d1	8.5	
Progression Factor	1.00	
Incremental Delay, d2	0.1	
Delay (s)	8.6	
Level of Service	A	
Approach Delay (s/veh)	12.3	
Approach LOS	B	

Intersection Summary

Intersection: 1: Lovers Lane & Walnut Avenue

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	UL	T	TR	UL	T	TR
Maximum Queue (ft)	140	179	90	160	316	175	166	141	143	204	265
Average Queue (ft)	67	106	33	78	151	111	67	77	76	118	115
95th Queue (ft)	129	181	64	142	248	178	134	131	133	187	190
Link Distance (ft)		2564			2538		2504	2504		2548	2548
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	300		150	300		210			250		
Storage Blk Time (%)		3			1						
Queuing Penalty (veh)		7			0						

Intersection: 2: Pinkham Street & K Avenue

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	61	44	25	105	118	98
Average Queue (ft)	24	22	5	44	55	41
95th Queue (ft)	45	39	21	83	89	77
Link Distance (ft)		1330		2545	930	2251
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	200		150			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: Lovers Lane & K Avenue

Movement	EB	EB	NB	SB
Directions Served	L	R	UL	U
Maximum Queue (ft)	48	74	76	25
Average Queue (ft)	17	28	26	2
95th Queue (ft)	42	46	55	12
Link Distance (ft)	2545			
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		115	290	100
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Lovers Lane & Sunnyside Avenue

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	UL	T	T	R	UL	T	TR
Maximum Queue (ft)	86	66	86	65	49	218	169	44	73	222	201
Average Queue (ft)	39	19	25	19	11	72	53	5	21	98	80
95th Queue (ft)	73	49	59	40	33	142	120	22	50	201	181
Link Distance (ft)		670		717		470	470			1238	1238
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	100		250		80			100	300		
Storage Blk Time (%)	0					6	1				
Queuing Penalty (veh)	0					0	0				

Intersection: 7: Sunnyside Avenue & Driveway C

Movement	SB
Directions Served	LR
Maximum Queue (ft)	67
Average Queue (ft)	19
95th Queue (ft)	49
Link Distance (ft)	216
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Driveway D & Sunnyside Avenue

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	55	53
Average Queue (ft)	27	25
95th Queue (ft)	49	49
Link Distance (ft)	222	222
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Lovers Lane & Driveway E

Movement	WB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	21
95th Queue (ft)	44
Link Distance (ft)	200
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: Caldwell Avenue & Pinkham Street

Movement	EB	SB	SB
Directions Served	L	L	R
Maximum Queue (ft)	51	72	46
Average Queue (ft)	11	19	22
95th Queue (ft)	34	46	38
Link Distance (ft)			1815
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	165	200	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Lovers Lane & Caldwell Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	TR	UL	T	TR
Maximum Queue (ft)	96	151	139	131	137	176	76	96	82	136	215	229
Average Queue (ft)	35	73	49	40	80	86	38	64	47	72	118	88
95th Queue (ft)	72	121	96	87	124	147	69	100	78	134	212	182
Link Distance (ft)		1215	1215		1121	1121		765	765		750	750
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	230			90			150			125		
Storage Blk Time (%)				2	8					2	10	
Queuing Penalty (veh)				3	5					4	10	

Intersection: 12: Road 148 & Caldwell Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	51	122	73	74
Average Queue (ft)	11	7	20	45
95th Queue (ft)	35	45	48	71
Link Distance (ft)	4000	5290	2538	2586
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 21: Bend

Movement	SB	SB
Directions Served	T	
Maximum Queue (ft)	81	86
Average Queue (ft)	7	6
95th Queue (ft)	39	39
Link Distance (ft)	765	765
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 30

Intersection: 1: Lovers Lane & Walnut Avenue

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	UL	T	TR	UL	T	TR
Maximum Queue (ft)	116	240	54	115	366	213	218	252	179	221	190
Average Queue (ft)	51	125	30	49	147	70	98	120	97	124	123
95th Queue (ft)	90	221	59	98	269	136	188	210	159	180	186
Link Distance (ft)		2564			2538		2504	2504		2548	2548
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	300		150	300		210			250		
Storage Blk Time (%)		6			1	0	0				
Queuing Penalty (veh)		10			0	0	0				

Intersection: 2: Pinkham Street & K Avenue

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	44	53	25	79	70	92
Average Queue (ft)	18	26	12	28	38	45
95th Queue (ft)	37	46	31	55	59	69
Link Distance (ft)		1330		2545	930	2251
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	200		150			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: Lovers Lane & K Avenue

Movement	EB	EB	NB	SB	SB
Directions Served	L	R	UL	U	T
Maximum Queue (ft)	29	74	70	24	56
Average Queue (ft)	11	29	16	2	2
95th Queue (ft)	33	63	49	11	18
Link Distance (ft)	2545				2504
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		115	290	100	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 5: Lovers Lane & Sunnyside Avenue

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	UL	T	T	R	UL	T	TR
Maximum Queue (ft)	72	29	45	44	28	131	135	48	96	137	135
Average Queue (ft)	25	1	21	19	8	68	72	13	59	58	47
95th Queue (ft)	61	9	41	35	27	119	136	35	101	120	107
Link Distance (ft)		670		717		470	470			1238	1238
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	100		250		80			100	300		
Storage Blk Time (%)						5	3				
Queuing Penalty (veh)						1	1				

Intersection: 7: Sunnyside Avenue & Driveway C

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	31	50
Average Queue (ft)	2	12
95th Queue (ft)	15	38
Link Distance (ft)	717	216
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Driveway D & Sunnyside Avenue

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	52	55
Average Queue (ft)	23	21
95th Queue (ft)	47	49
Link Distance (ft)	222	222
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Lovers Lane & Driveway E

Movement	WB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	15
95th Queue (ft)	39
Link Distance (ft)	200
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: Caldwell Avenue & Pinkham Street

Movement	EB	SB	SB
Directions Served	L	L	R
Maximum Queue (ft)	53	28	84
Average Queue (ft)	10	13	22
95th Queue (ft)	33	33	49
Link Distance (ft)			1815
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	165	200	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Lovers Lane & Caldwell Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	TR	UL	T	TR
Maximum Queue (ft)	177	155	120	72	149	157	133	198	204	179	149	141
Average Queue (ft)	84	81	52	29	80	78	45	93	84	62	83	52
95th Queue (ft)	141	125	91	61	129	134	103	159	156	122	148	110
Link Distance (ft)		1215	1215		1121	1121		765	765		750	750
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	230			90			150			125		
Storage Blk Time (%)				0	8		0	1		1	4	
Queuing Penalty (veh)				0	3		0	1		1	4	

Intersection: 12: Road 148 & Caldwell Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	53	53	72	52
Average Queue (ft)	2	6	33	31
95th Queue (ft)	18	30	51	46
Link Distance (ft)	4000	5290	2538	2586
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

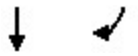
Network Summary

Network wide Queuing Penalty: 23

Appendix J: Cumulative 5-Year No Project Traffic Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	92	229	110	80	310	56	11	183	359	49	39	81
Future Volume (vph)	92	229	110	80	310	56	11	183	359	49	39	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.3	5.3	4.2	5.3	5.3		4.2	5.7	5.7		4.2
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00	0.95	1.00		1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99		1.00	1.00	1.00		1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00	0.85		1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	1.00		0.95
Satd. Flow (prot)	1752	3505	1548	1752	3505	1548		1752	3505	1568		1752
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	1.00		0.95
Satd. Flow (perm)	1752	3505	1548	1752	3505	1548		1752	3505	1568		1752
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	105	260	125	91	352	64	13	208	408	56	44	92
RTOR Reduction (vph)	0	0	99	0	0	51	0	0	0	40	0	0
Lane Group Flow (vph)	105	260	26	91	352	13	0	221	408	16	0	136
Confl. Peds. (#/hr)			1			1						
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	Prot
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases			4			8				2		
Actuated Green, G (s)	8.4	16.4	16.4	7.7	15.7	15.7		16.1	21.8	21.8		12.3
Effective Green, g (s)	8.4	16.4	16.4	7.7	15.7	15.7		16.1	21.8	21.8		12.3
Actuated g/C Ratio	0.11	0.21	0.21	0.10	0.20	0.20		0.21	0.28	0.28		0.16
Clearance Time (s)	4.2	5.3	5.3	4.2	5.3	5.3		4.2	5.7	5.7		4.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	189	740	327	173	709	313		363	984	440		277
v/s Ratio Prot	c0.06	0.07		0.05	c0.10			c0.13	c0.12			0.08
v/s Ratio Perm			0.02			0.01				0.01		
v/c Ratio	0.56	0.35	0.08	0.53	0.50	0.04		0.61	0.41	0.04		0.49
Uniform Delay, d1	32.8	26.1	24.6	33.2	27.4	24.9		27.9	22.7	20.3		29.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Incremental Delay, d2	3.5	0.3	0.1	2.9	0.5	0.1		2.9	0.3	0.0		1.4
Delay (s)	36.3	26.4	24.7	36.1	28.0	25.0		30.8	23.0	20.3		31.2
Level of Service	D	C	C	D	C	C		C	C	C		C
Approach Delay (s/veh)		28.1			29.1				25.3			
Approach LOS		C			C				C			

Intersection Summary			
HCM 2000 Control Delay (s/veh)	27.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	77.6	Sum of lost time (s)	19.4
Intersection Capacity Utilization	53.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	403	129
Future Volume (vph)	403	129
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.7	5.7
Lane Util. Factor	0.95	1.00
Frpb, ped/bikes	1.00	1.00
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3505	1568
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3505	1568
Peak-hour factor, PHF	0.88	0.88
Adj. Flow (vph)	458	147
RTOR Reduction (vph)	0	104
Lane Group Flow (vph)	458	43
Confl. Peds. (#/hr)		
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	18.0	18.0
Effective Green, g (s)	18.0	18.0
Actuated g/C Ratio	0.23	0.23
Clearance Time (s)	5.7	5.7
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	813	363
v/s Ratio Prot	c0.13	
v/s Ratio Perm		0.03
v/c Ratio	0.56	0.12
Uniform Delay, d1	26.3	23.5
Progression Factor	1.00	1.00
Incremental Delay, d2	0.9	0.1
Delay (s)	27.2	23.7
Level of Service	C	C
Approach Delay (s/veh)	27.2	
Approach LOS	C	

Intersection Summary

Intersection	
Intersection Delay, s/veh	14.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	72	70	40	5	114	27	93	173	6	26	85	54
Future Vol, veh/h	72	70	40	5	114	27	93	173	6	26	85	54
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	99	96	55	7	156	37	127	237	8	36	116	74
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay, s/veh	11.7	13	17.4	12.5
HCM LOS	B	B	C	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	34%	100%	0%	100%	0%	16%
Vol Thru, %	64%	0%	64%	0%	81%	52%
Vol Right, %	2%	0%	36%	0%	19%	33%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	272	72	110	5	141	165
LT Vol	93	72	0	5	0	26
Through Vol	173	0	70	0	114	85
RT Vol	6	0	40	0	27	54
Lane Flow Rate	373	99	151	7	193	226
Geometry Grp	2	5	5	5	5	2
Degree of Util (X)	0.602	0.198	0.27	0.014	0.357	0.37
Departure Headway (Hd)	5.819	7.219	6.447	7.3	6.651	5.893
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	615	494	553	487	537	603
Service Time	3.902	5.014	4.241	5.097	4.447	3.989
HCM Lane V/C Ratio	0.607	0.2	0.273	0.014	0.359	0.375
HCM Control Delay, s/veh	17.4	11.8	11.6	10.2	13.1	12.5
HCM Lane LOS	C	B	B	B	B	B
HCM 95th-tile Q	4	0.7	1.1	0	1.6	1.7

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Vol, veh/h	29	77	1	58	452	4	592	26
Future Vol, veh/h	29	77	1	58	452	4	592	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None
Storage Length	0	115	-	290	-	100	-	-
Veh in Median Storage, #	0	-	-	-	0	-	0	-
Grade, %	0	-	-	-	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3	3	3
Mvmt Flow	33	88	1	66	514	5	673	30

Major/Minor	Minor2		Major1			Major2		
Conflicting Flow All	1088	351	702	702	0	514	-	0
Stage 1	697	-	-	-	-	-	-	-
Stage 2	391	-	-	-	-	-	-	-
Critical Hdwy	6.86	6.96	6.46	4.16	-	6.46	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.53	2.23	-	2.53	-	-
Pot Cap-1 Maneuver	209	642	511	884	-	674	-	-
Stage 1	453	-	-	-	-	-	-	-
Stage 2	650	-	-	-	-	-	-	-
Platoon blocked, %					-		-	-
Mov Cap-1 Maneuver	191	642	870	870	-	674	-	-
Mov Cap-2 Maneuver	191	-	-	-	-	-	-	-
Stage 1	418	-	-	-	-	-	-	-
Stage 2	645	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	15.92	1.1	0.07
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBU	SBT	SBR
Capacity (veh/h)	870	-	191	642	674	-	-
HCM Lane V/C Ratio	0.077	-	0.172	0.136	0.007	-	-
HCM Ctrl Dly (s/v)	9.5	-	27.7	11.5	10.4	-	-
HCM Lane LOS	A	-	D	B	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.6	0.5	0	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Vol, veh/h	49	23	1	8	458	3	646	22
Future Vol, veh/h	49	23	1	8	458	3	646	22
Conflicting Peds, #/hr	0	0	0	1	0	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None
Storage Length	0	-	-	80	-	300	-	-
Veh in Median Storage, #	0	-	-	-	0	-	0	-
Grade, %	0	-	-	-	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88
Heavy Vehicles, %	4	4	4	4	4	4	4	4
Mvmt Flow	56	26	1	9	520	3	734	25

Major/Minor	Minor2		Major1			Major2		
Conflicting Flow All	1035	381	759	760	0	520	-	0
Stage 1	754	-	-	-	-	-	-	-
Stage 2	281	-	-	-	-	-	-	-
Critical Hdwy	6.88	6.98	6.48	4.18	-	6.48	-	-
Critical Hdwy Stg 1	5.88	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.88	-	-	-	-	-	-	-
Follow-up Hdwy	3.54	3.34	2.54	2.24	-	2.54	-	-
Pot Cap-1 Maneuver	224	612	467	835	-	664	-	-
Stage 1	420	-	-	-	-	-	-	-
Stage 2	736	-	-	-	-	-	-	-
Platoon blocked, %					-		-	-
Mov Cap-1 Maneuver	220	611	761	761	-	664	-	-
Mov Cap-2 Maneuver	220	-	-	-	-	-	-	-
Stage 1	414	-	-	-	-	-	-	-
Stage 2	732	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	23.41	0.19	0.05
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	761	-	276	664	-	-
HCM Lane V/C Ratio	0.013	-	0.296	0.005	-	-
HCM Ctrl Dly (s/v)	9.8	-	23.4	10.5	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0	-	1.2	0	-	-

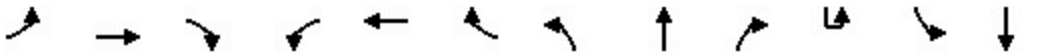
Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	63	259	403	36	29	61
Future Vol, veh/h	63	259	403	36	29	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	165	-	-	0	200	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	68	282	438	39	32	66

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	477	0	-	0	857	438
Stage 1	-	-	-	-	438	-
Stage 2	-	-	-	-	418	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1080	-	-	-	327	617
Stage 1	-	-	-	-	648	-
Stage 2	-	-	-	-	662	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1080	-	-	-	306	617
Mov Cap-2 Maneuver	-	-	-	-	306	-
Stage 1	-	-	-	-	607	-
Stage 2	-	-	-	-	662	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	1.67	0	13.66
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1080	-	-	-	306	617
HCM Lane V/C Ratio	0.063	-	-	-	0.103	0.108
HCM Ctrl Dly (s/v)	8.6	-	-	-	18.1	11.5
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.3	0.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	50	199	69	67	310	95	63	353	68	1	101	482
Future Volume (veh/h)	50	199	69	67	310	95	63	353	68	1	101	482
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0		0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Work Zone On Approach		No			No			No				No
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856		1856	1856
Adj Flow Rate, veh/h	56	221	77	74	344	106	70	392	76		112	536
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90		0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3		3	3
Cap, veh/h	122	359	122	170	490	149	135	1207	232		157	1204
Arrive On Green	0.07	0.14	0.14	0.10	0.18	0.18	0.08	0.41	0.41		0.09	0.40
Sat Flow, veh/h	1767	2585	876	1767	2659	806	1767	2950	567		1767	3014
Grp Volume(v), veh/h	56	149	149	74	226	224	70	233	235		112	313
Grp Sat Flow(s),veh/h/ln	1767	1763	1698	1767	1763	1703	1767	1763	1754		1767	1763
Q Serve(g_s), s	2.5	6.4	6.7	3.2	9.7	10.0	3.1	7.3	7.4		5.0	10.5
Cycle Q Clear(g_c), s	2.5	6.4	6.7	3.2	9.7	10.0	3.1	7.3	7.4		5.0	10.5
Prop In Lane	1.00		0.52	1.00		0.47	1.00		0.32		1.00	
Lane Grp Cap(c), veh/h	122	245	236	170	325	314	135	722	718		157	704
V/C Ratio(X)	0.46	0.61	0.63	0.44	0.70	0.71	0.52	0.32	0.33		0.71	0.44
Avail Cap(c_a), veh/h	192	654	630	192	654	632	192	722	718		258	704
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Uniform Delay (d), s/veh	36.2	32.7	32.9	34.5	30.9	31.0	35.9	16.3	16.3		35.9	17.7
Incr Delay (d2), s/veh	2.7	2.4	2.8	1.8	2.7	3.0	3.1	1.2	1.2		6.0	2.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.7	2.7	1.4	4.0	4.0	1.3	2.7	2.8		2.2	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	38.9	35.2	35.7	36.3	33.5	34.0	39.0	17.4	17.5		41.8	19.8
LnGrp LOS	D	D	D	D	C	C	D	B	B		D	B
Approach Vol, veh/h		354			524			538				739
Approach Delay, s/veh		36.0			34.1			20.3				23.1
Approach LOS		D			C			C				C

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.4	39.1	13.5	16.9	12.2	38.3	9.8	20.6
Change Period (Y+Rc), s	4.2	6.0	5.7	* 5.7	6.0	* 6	4.2	5.7
Max Green Setting (Gmax), s	11.8	29.3	8.8	* 30	8.8	* 32	8.8	30.0
Max Q Clear Time (g_c+I1), s	7.0	9.4	5.2	8.7	5.1	12.6	4.5	12.0
Green Ext Time (p_c), s	0.1	2.2	0.0	1.4	0.0	3.1	0.0	2.2

Intersection Summary	
HCM 7th Control Delay, s/veh	27.2
HCM 7th LOS	C

Notes

User approved ignoring U-Turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	82
Future Volume (veh/h)	82
Initial Q (Qb), veh	0
Lane Width Adj.	1.00
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1856
Adj Flow Rate, veh/h	91
Peak Hour Factor	0.90
Percent Heavy Veh, %	3
Cap, veh/h	204
Arrive On Green	0.40
Sat Flow, veh/h	510
Grp Volume(v), veh/h	314
Grp Sat Flow(s),veh/h/ln	1761
Q Serve(g_s), s	10.6
Cycle Q Clear(g_c), s	10.6
Prop In Lane	0.29
Lane Grp Cap(c), veh/h	703
V/C Ratio(X)	0.45
Avail Cap(c_a), veh/h	703
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	17.8
Incr Delay (d2), s/veh	2.1
Initial Q Delay(d3), s/veh	0.0
%ile BackOfQ(50%),veh/ln	4.0
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	19.8
LnGrp LOS	B
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Intersection	
Int Delay, s/veh	13.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	68	268	21	14	363	24	15	23	12	33	45	82
Future Vol, veh/h	68	268	21	14	363	24	15	23	12	33	45	82
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	91	357	28	19	484	32	20	31	16	44	60	109

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	516	0	0	385	0	0	1104	1106	374	1094	1104	500
Stage 1	-	-	-	-	-	-	553	553	-	537	537	-
Stage 2	-	-	-	-	-	-	551	553	-	557	567	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1045	-	-	1168	-	-	188	210	670	190	210	569
Stage 1	-	-	-	-	-	-	516	513	-	526	521	-
Stage 2	-	-	-	-	-	-	517	512	-	513	505	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1045	-	-	1168	-	-	92	182	668	137	183	569
Mov Cap-2 Maneuver	-	-	-	-	-	-	92	182	-	137	183	-
Stage 1	-	-	-	-	-	-	459	456	-	514	509	-
Stage 2	-	-	-	-	-	-	360	501	-	414	449	-

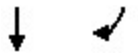
Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	1.67	0.28	41.55	65.17
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	163	338	-	-	62	-	-	253
HCM Lane V/C Ratio	0.409	0.087	-	-	0.016	-	-	0.842
HCM Ctrl Dly (s/v)	41.5	8.8	0	-	8.1	0	-	65.2
HCM Lane LOS	E	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	1.8	0.3	-	-	0	-	-	6.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	78	257	80	63	251	70	12	104	372	83	46	150
Future Volume (vph)	78	257	80	63	251	70	12	104	372	83	46	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.3	5.3	4.2	5.3	5.3		4.2	5.7	5.7		4.2
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00	0.95	1.00		1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00	0.85		1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	1.00		0.95
Satd. Flow (prot)	1752	3505	1568	1752	3505	1568		1752	3505	1568		1752
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	1.00		0.95
Satd. Flow (perm)	1752	3505	1568	1752	3505	1568		1752	3505	1568		1752
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	83	273	85	67	267	74	13	111	396	88	49	160
RTOR Reduction (vph)	0	0	68	0	0	60	0	0	0	67	0	0
Lane Group Flow (vph)	83	273	17	67	267	14	0	124	396	21	0	209
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	Prot
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases			4			8				2		
Actuated Green, G (s)	7.2	14.2	14.2	6.7	13.7	13.7		8.7	17.1	17.1		14.9
Effective Green, g (s)	7.2	14.2	14.2	6.7	13.7	13.7		8.7	17.1	17.1		14.9
Actuated g/C Ratio	0.10	0.20	0.20	0.09	0.19	0.19		0.12	0.24	0.24		0.21
Clearance Time (s)	4.2	5.3	5.3	4.2	5.3	5.3		4.2	5.7	5.7		4.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	174	688	307	162	664	297		210	828	370		361
v/s Ratio Prot	c0.05	c0.08		0.04	0.08			0.07	c0.11			c0.12
v/s Ratio Perm			0.01			0.01				0.01		
v/c Ratio	0.48	0.40	0.05	0.41	0.40	0.05		0.59	0.48	0.06		0.58
Uniform Delay, d1	30.8	25.3	23.6	30.9	25.7	24.0		30.1	23.8	21.4		25.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Incremental Delay, d2	2.1	0.4	0.1	1.7	0.4	0.1		4.4	0.4	0.1		2.2
Delay (s)	32.8	25.7	23.7	32.7	26.1	24.0		34.5	24.2	21.4		28.1
Level of Service	C	C	C	C	C	C		C	C	C		C
Approach Delay (s/veh)		26.6			26.8				25.9			
Approach LOS		C			C				C			

Intersection Summary			
HCM 2000 Control Delay (s/veh)	24.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	72.3	Sum of lost time (s)	19.4
Intersection Capacity Utilization	50.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↑↑	↱
Traffic Volume (vph)	440	111
Future Volume (vph)	440	111
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.7	5.7
Lane Util. Factor	0.95	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3505	1568
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3505	1568
Peak-hour factor, PHF	0.94	0.94
Adj. Flow (vph)	468	118
RTOR Reduction (vph)	0	75
Lane Group Flow (vph)	468	43
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	23.3	23.3
Effective Green, g (s)	23.3	23.3
Actuated g/C Ratio	0.32	0.32
Clearance Time (s)	5.7	5.7
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	1129	505
v/s Ratio Prot	0.13	
v/s Ratio Perm		0.03
v/c Ratio	0.41	0.08
Uniform Delay, d1	19.2	17.1
Progression Factor	1.00	1.00
Incremental Delay, d2	0.2	0.1
Delay (s)	19.4	17.1
Level of Service	B	B
Approach Delay (s/veh)	21.4	
Approach LOS	C	

Intersection Summary

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	78	52	14	79	17	54	105	7	24	123	30
Future Vol, veh/h	38	78	52	14	79	17	54	105	7	24	123	30
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	44	91	60	16	92	20	63	122	8	28	143	35
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay, s/veh	9.8	9.7	10.2	10.2
HCM LOS	A	A	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	33%	100%	0%	100%	0%	14%
Vol Thru, %	63%	0%	60%	0%	82%	69%
Vol Right, %	4%	0%	40%	0%	18%	17%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	166	38	130	14	96	177
LT Vol	54	38	0	14	0	24
Through Vol	105	0	78	0	79	123
RT Vol	7	0	52	0	17	30
Lane Flow Rate	193	44	151	16	112	206
Geometry Grp	2	5	5	5	5	2
Degree of Util (X)	0.28	0.077	0.232	0.029	0.179	0.291
Departure Headway (Hd)	5.218	6.307	5.517	6.4	5.767	5.09
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	691	569	652	560	623	710
Service Time	3.225	4.035	3.245	4.13	3.497	3.097
HCM Lane V/C Ratio	0.279	0.077	0.232	0.029	0.18	0.29
HCM Control Delay, s/veh	10.2	9.6	9.9	9.3	9.8	10.2
HCM Lane LOS	B	A	A	A	A	B
HCM 95th-tile Q	1.1	0.2	0.9	0.1	0.6	1.2

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Vol, veh/h	23	50	4	48	567	5	462	52
Future Vol, veh/h	23	50	4	48	567	5	462	52
Conflicting Peds, #/hr	1	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None
Storage Length	0	115	-	290	-	100	-	-
Veh in Median Storage, #	0	-	-	-	0	-	0	-
Grade, %	0	-	-	-	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87
Heavy Vehicles, %	3	3	3	3	3	3	3	3
Mvmt Flow	26	57	5	55	652	6	531	60

Major/Minor	Minor2		Major1			Major2		
Conflicting Flow All	1019	295	591	591	0	652	-	0
Stage 1	572	-	-	-	-	-	-	-
Stage 2	446	-	-	-	-	-	-	-
Critical Hdwy	6.86	6.96	6.46	4.16	-	6.46	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.53	2.23	-	2.53	-	-
Pot Cap-1 Maneuver	231	698	602	974	-	551	-	-
Stage 1	525	-	-	-	-	-	-	-
Stage 2	609	-	-	-	-	-	-	-
Platoon blocked, %					-		-	-
Mov Cap-1 Maneuver	214	698	920	920	-	551	-	-
Mov Cap-2 Maneuver	214	-	-	-	-	-	-	-
Stage 1	491	-	-	-	-	-	-	-
Stage 2	602	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	14.89	0.77	0.11
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBU	SBT	SBR
Capacity (veh/h)	920	-	214	698	551	-	-
HCM Lane V/C Ratio	0.065	-	0.124	0.082	0.01	-	-
HCM Ctrl Dly (s/v)	9.2	-	24.2	10.6	11.6	-	-
HCM Lane LOS	A	-	C	B	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.4	0.3	0	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Vol, veh/h	32	6	1	22	584	4	471	39
Future Vol, veh/h	32	6	1	22	584	4	471	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None
Storage Length	0	-	-	80	-	300	-	-
Veh in Median Storage, #	0	-	-	-	0	-	0	-
Grade, %	0	-	-	-	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87
Heavy Vehicles, %	3	3	3	3	3	3	3	3
Mvmt Flow	37	7	1	25	671	5	541	45

Major/Minor	Minor2		Major1			Major2		
Conflicting Flow All	961	293	586	586	0	671	-	0
Stage 1	573	-	-	-	-	-	-	-
Stage 2	389	-	-	-	-	-	-	-
Critical Hdwy	6.86	6.96	6.46	4.16	-	6.46	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.53	2.23	-	2.53	-	-
Pot Cap-1 Maneuver	252	700	606	978	-	535	-	-
Stage 1	525	-	-	-	-	-	-	-
Stage 2	652	-	-	-	-	-	-	-
Platoon blocked, %					-		-	-
Mov Cap-1 Maneuver	243	700	952	952	-	535	-	-
Mov Cap-2 Maneuver	243	-	-	-	-	-	-	-
Stage 1	510	-	-	-	-	-	-	-
Stage 2	646	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	20.82	0.34	0.09
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	952	-	271	535	-	-
HCM Lane V/C Ratio	0.028	-	0.161	0.009	-	-
HCM Ctrl Dly (s/v)	8.9	-	20.8	11.8	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	0	-	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	77	407	371	33	14	71
Future Vol, veh/h	77	407	371	33	14	71
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	165	-	-	0	200	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	82	433	395	35	15	76

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	430	0	-	0	991	395
Stage 1	-	-	-	-	395	-
Stage 2	-	-	-	-	597	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1124	-	-	-	272	652
Stage 1	-	-	-	-	679	-
Stage 2	-	-	-	-	548	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1124	-	-	-	252	652
Mov Cap-2 Maneuver	-	-	-	-	252	-
Stage 1	-	-	-	-	629	-
Stage 2	-	-	-	-	548	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	1.34	0	12.72
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1124	-	-	-	252	652
HCM Lane V/C Ratio	0.073	-	-	-	0.059	0.116
HCM Ctrl Dly (s/v)	8.5	-	-	-	20.2	11.2
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	113	271	50	53	278	91	60	394	42	1	95	300
Future Volume (veh/h)	113	271	50	53	278	91	60	394	42	1	95	300
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0		0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Work Zone On Approach		No			No			No				No
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856		1856	1856
Adj Flow Rate, veh/h	120	288	53	56	296	97	64	419	45		101	319
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		0.94	0.94
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3		3	3
Cap, veh/h	163	417	76	162	416	134	132	1300	139		156	1083
Arrive On Green	0.09	0.14	0.14	0.09	0.16	0.16	0.07	0.40	0.40		0.09	0.40
Sat Flow, veh/h	1767	2980	541	1767	2624	843	1767	3213	343		1767	2740
Grp Volume(v), veh/h	120	169	172	56	197	196	64	229	235		101	203
Grp Sat Flow(s),veh/h/ln	1767	1763	1758	1767	1763	1704	1767	1763	1794		1767	1763
Q Serve(g_s), s	5.2	7.1	7.3	2.3	8.3	8.6	2.7	7.0	7.0		4.3	6.2
Cycle Q Clear(g_c), s	5.2	7.1	7.3	2.3	8.3	8.6	2.7	7.0	7.0		4.3	6.2
Prop In Lane	1.00		0.31	1.00		0.49	1.00		0.19		1.00	
Lane Grp Cap(c), veh/h	163	247	246	162	279	270	132	713	726		156	697
V/C Ratio(X)	0.74	0.68	0.70	0.35	0.71	0.73	0.48	0.32	0.32		0.65	0.29
Avail Cap(c_a), veh/h	266	704	702	198	636	615	198	713	726		243	697
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Uniform Delay (d), s/veh	34.7	32.1	32.2	33.4	31.3	31.4	34.8	16.0	16.0		34.6	16.2
Incr Delay (d2), s/veh	6.3	3.3	3.6	1.3	3.3	3.7	2.7	1.2	1.2		4.4	1.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	3.0	3.1	1.0	3.5	3.5	1.2	2.6	2.7		1.9	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	41.0	35.4	35.8	34.7	34.5	35.1	37.6	17.2	17.2		39.0	17.3
LnGrp LOS	D	D	D	C	C	D	D	B	B		D	B
Approach Vol, veh/h		461			449			528				508
Approach Delay, s/veh		37.0			34.8			19.6				21.6
Approach LOS		D			C			B				C

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	37.7	12.9	16.7	11.9	37.0	11.4	18.1
Change Period (Y+Rc), s	4.2	6.0	5.7	* 5.7	6.0	* 6	4.2	5.7
Max Green Setting (Gmax), s	10.8	29.0	8.8	* 31	8.8	* 31	11.8	28.3
Max Q Clear Time (g_c+I1), s	6.3	9.0	4.3	9.3	4.7	8.4	7.2	10.6
Green Ext Time (p_c), s	0.1	2.2	0.0	1.6	0.0	2.0	0.1	1.8

Intersection Summary	
HCM 7th Control Delay, s/veh	27.8
HCM 7th LOS	C

Notes

User approved ignoring U-Turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	83
Future Volume (veh/h)	83
Initial Q (Qb), veh	0
Lane Width Adj.	1.00
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1856
Adj Flow Rate, veh/h	88
Peak Hour Factor	0.94
Percent Heavy Veh, %	3
Cap, veh/h	294
Arrive On Green	0.40
Sat Flow, veh/h	744
Grp Volume(v), veh/h	204
Grp Sat Flow(s),veh/h/ln	1721
Q Serve(g_s), s	6.4
Cycle Q Clear(g_c), s	6.4
Prop In Lane	0.43
Lane Grp Cap(c), veh/h	680
V/C Ratio(X)	0.30
Avail Cap(c_a), veh/h	680
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	16.3
Incr Delay (d2), s/veh	1.1
Initial Q Delay(d3), s/veh	0.0
%ile BackOfQ(50%),veh/ln	2.3
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	17.4
LnGrp LOS	B
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	323	24	21	359	32	14	72	29	18	46	42
Future Vol, veh/h	20	323	24	21	359	32	14	72	29	18	46	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	22	359	27	23	399	36	16	80	32	20	51	47

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	434	0	0	386	0	0	888	898	372	907	893	417
Stage 1	-	-	-	-	-	-	417	417	-	463	463	-
Stage 2	-	-	-	-	-	-	471	481	-	443	430	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1120	-	-	1167	-	-	263	278	672	256	280	634
Stage 1	-	-	-	-	-	-	612	590	-	577	562	-
Stage 2	-	-	-	-	-	-	571	552	-	592	582	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1120	-	-	1167	-	-	189	264	672	163	265	634
Mov Cap-2 Maneuver	-	-	-	-	-	-	189	264	-	163	265	-
Stage 1	-	-	-	-	-	-	596	575	-	562	547	-
Stage 2	-	-	-	-	-	-	467	537	-	472	567	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.45	0.42	26.25	24.23
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	295	97	-	-	90	-	-	303
HCM Lane V/C Ratio	0.434	0.02	-	-	0.02	-	-	0.389
HCM Ctrl Dly (s/v)	26.3	8.3	0	-	8.1	0	-	24.2
HCM Lane LOS	D	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	2.1	0.1	-	-	0.1	-	-	1.8

Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	68	268	21	14	363	24	15	23	12	33	45	82
Future Vol, veh/h	68	268	21	14	363	24	15	23	12	33	45	82
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	250	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	91	357	28	19	484	32	20	31	16	44	60	109

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	516	0	0	385	0	0	1104	1106	374	1094	1104	500
Stage 1	-	-	-	-	-	-	553	553	-	537	537	-
Stage 2	-	-	-	-	-	-	551	553	-	557	567	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1045	-	-	1168	-	-	188	210	670	190	210	569
Stage 1	-	-	-	-	-	-	516	513	-	526	521	-
Stage 2	-	-	-	-	-	-	517	512	-	513	505	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1045	-	-	1168	-	-	92	182	668	137	183	569
Mov Cap-2 Maneuver	-	-	-	-	-	-	92	182	-	137	183	-
Stage 1	-	-	-	-	-	-	459	456	-	514	509	-
Stage 2	-	-	-	-	-	-	360	501	-	414	449	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	1.67	0.28	32.66	30.74
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	92	243	338	-	-	62	-	-	137	325
HCM Lane V/C Ratio	0.216	0.192	0.087	-	-	0.016	-	-	0.321	0.521
HCM Ctrl Dly (s/v)	54.4	23.3	8.8	0	-	8.1	0	-	43.2	27.5
HCM Lane LOS	F	C	A	A	-	A	A	-	E	D
HCM 95th %tile Q(veh)	0.8	0.7	0.3	-	-	0	-	-	1.3	2.8

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	323	24	21	359	32	14	72	29	18	46	42
Future Vol, veh/h	20	323	24	21	359	32	14	72	29	18	46	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	250	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	22	359	27	23	399	36	16	80	32	20	51	47

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	434	0	0	386	0	0	888	898	372	907	893	417
Stage 1	-	-	-	-	-	-	417	417	-	463	463	-
Stage 2	-	-	-	-	-	-	471	481	-	443	430	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1120	-	-	1167	-	-	263	278	672	256	280	634
Stage 1	-	-	-	-	-	-	612	590	-	577	562	-
Stage 2	-	-	-	-	-	-	571	552	-	592	582	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1120	-	-	1167	-	-	189	264	672	163	265	634
Mov Cap-2 Maneuver	-	-	-	-	-	-	189	264	-	163	265	-
Stage 1	-	-	-	-	-	-	596	575	-	562	547	-
Stage 2	-	-	-	-	-	-	467	537	-	472	567	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.45	0.42	22.68	20.32
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	189	319	97	-	-	90	-	-	163	367
HCM Lane V/C Ratio	0.082	0.351	0.02	-	-	0.02	-	-	0.122	0.266
HCM Ctrl Dly (s/v)	25.8	22.2	8.3	0	-	8.1	0	-	30.1	18.3
HCM Lane LOS	D	C	A	A	-	A	A	-	D	C
HCM 95th %tile Q(veh)	0.3	1.5	0.1	-	-	0.1	-	-	0.4	1.1

Intersection: 1: Lovers Lane & Walnut Avenue

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	R	UL	T	T	R
Maximum Queue (ft)	134	111	88	86	108	149	128	62	257	154	126	43
Average Queue (ft)	54	53	42	28	49	78	53	12	101	63	70	11
95th Queue (ft)	103	87	82	59	99	126	102	34	190	110	121	30
Link Distance (ft)		792	792			2525	2525			2492	2492	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300			180	300			270	180			100
Storage Blk Time (%)									1		4	
Queuing Penalty (veh)									2		2	

Intersection: 1: Lovers Lane & Walnut Avenue

Movement	SB	SB	SB	SB
Directions Served	UL	T	T	R
Maximum Queue (ft)	155	221	211	82
Average Queue (ft)	75	91	65	28
95th Queue (ft)	136	166	138	56
Link Distance (ft)		2524	2524	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	220			100
Storage Blk Time (%)		0	2	0
Queuing Penalty (veh)		0	2	0

Intersection: 2: Pinkham Street & K Avenue

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	46	63	25	66	158	75
Average Queue (ft)	22	28	4	33	67	42
95th Queue (ft)	41	51	19	55	127	66
Link Distance (ft)		1330		2545	930	2251
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	200		150			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: Lovers Lane & K Avenue

Movement	EB	EB	NB	SB
Directions Served	L	R	UL	U
Maximum Queue (ft)	53	53	58	31
Average Queue (ft)	21	30	17	2
95th Queue (ft)	46	50	47	14
Link Distance (ft)	2545			
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		115	290	100
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Lovers Lane & Sunnyside Avenue

Movement	EB	NB	SB
Directions Served	LR	UL	U
Maximum Queue (ft)	78	24	24
Average Queue (ft)	36	2	2
95th Queue (ft)	69	14	11
Link Distance (ft)	671		
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		80	300
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Caldwell Avenue & Pinkham Street

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	R	L	R
Maximum Queue (ft)	53	44	48	72	70
Average Queue (ft)	24	1	2	19	23
95th Queue (ft)	51	15	18	51	52
Link Distance (ft)		1248	1248		1815
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	165			200	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 11: Lovers Lane & Caldwell Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	TR	UL	T	TR
Maximum Queue (ft)	117	159	149	113	140	162	110	162	141	117	180	191
Average Queue (ft)	43	83	49	45	90	83	56	77	71	65	108	78
95th Queue (ft)	83	127	108	79	138	138	97	124	130	108	172	160
Link Distance (ft)		1215	1215		1121	1121		765	765		1291	1291
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	230			90			150			125		
Storage Blk Time (%)				2	12			0		0	6	
Queuing Penalty (veh)				2	8			0		0	6	

Intersection: 12: Road 148 & Caldwell Avenue

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	96	26	31	51	50	71
Average Queue (ft)	26	2	8	20	18	34
95th Queue (ft)	69	15	28	42	43	57
Link Distance (ft)	3994	5284		2538		2586
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			250		250	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 21: Bend

Movement	SB	SB
Directions Served	T	
Maximum Queue (ft)	54	102
Average Queue (ft)	2	3
95th Queue (ft)	18	33
Link Distance (ft)	765	765
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 23

Intersection: 1: Lovers Lane & Walnut Avenue

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	R	UL	T	T	R
Maximum Queue (ft)	114	113	149	46	152	127	119	50	144	141	170	116
Average Queue (ft)	41	59	61	20	41	70	35	18	72	62	88	24
95th Queue (ft)	92	100	120	44	94	108	79	39	124	120	148	64
Link Distance (ft)		793	793			2525	2525			2492	2492	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300			180	300			270	180			100
Storage Blk Time (%)											7	0
Queuing Penalty (veh)											6	0

Intersection: 1: Lovers Lane & Walnut Avenue

Movement	SB	SB	SB	SB
Directions Served	UL	T	T	R
Maximum Queue (ft)	191	166	151	42
Average Queue (ft)	110	89	71	16
95th Queue (ft)	183	152	127	35
Link Distance (ft)		2524	2524	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	220			100
Storage Blk Time (%)			2	
Queuing Penalty (veh)			2	

Intersection: 2: Pinkham Street & K Avenue

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	43	59	25	85	95	100
Average Queue (ft)	18	27	11	30	43	46
95th Queue (ft)	38	46	29	58	75	79
Link Distance (ft)		1330		2545	930	2251
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	200		150			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: Lovers Lane & K Avenue

Movement	EB	EB	NB	SB	SB	SB
Directions Served	L	R	UL	U	T	TR
Maximum Queue (ft)	54	53	31	25	50	26
Average Queue (ft)	19	24	12	1	2	2
95th Queue (ft)	45	46	33	8	17	11
Link Distance (ft)	2545				2492	2492
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		115	290	100		
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 5: Lovers Lane & Sunnyside Avenue

Movement	EB	NB	SB	SB
Directions Served	LR	UL	U	TR
Maximum Queue (ft)	49	68	24	22
Average Queue (ft)	19	8	1	1
95th Queue (ft)	46	34	8	7
Link Distance (ft)	671			1240
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		80	300	
Storage Blk Time (%)		0		
Queuing Penalty (veh)		0		

Intersection: 10: Caldwell Avenue & Pinkham Street

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	R	L	R
Maximum Queue (ft)	54	48	56	49	48
Average Queue (ft)	11	2	2	10	25
95th Queue (ft)	40	16	18	32	42
Link Distance (ft)		1248	1248		1815
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	165			200	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 11: Lovers Lane & Caldwell Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	TR	UL	T	TR
Maximum Queue (ft)	139	136	130	94	161	152	96	166	156	156	182	132
Average Queue (ft)	71	82	56	41	80	78	51	86	69	65	81	52
95th Queue (ft)	117	129	101	87	129	127	95	142	124	114	156	112
Link Distance (ft)		1215	1215		1121	1121		765	765		1291	1291
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	230			90			150			125		
Storage Blk Time (%)				2	6			0		1	4	
Queuing Penalty (veh)				2	3			0		2	4	

Intersection: 12: Road 148 & Caldwell Avenue

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	53	53	30	74	48	53
Average Queue (ft)	9	6	9	38	14	30
95th Queue (ft)	37	28	29	60	38	48
Link Distance (ft)	3994	5284		2538		2586
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			250		250	
Storage Blk Time (%)						
Queuing Penalty (veh)						

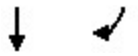
Network Summary

Network wide Queuing Penalty: 20

Appendix K: Cumulative 5-Year plus Phase 1 Traffic Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	99	229	115	82	310	56	11	210	394	54	39	81
Future Volume (vph)	99	229	115	82	310	56	11	210	394	54	39	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.3	5.3	4.2	5.3	5.3		4.2	5.7	5.7		4.2
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00	0.95	1.00		1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99		1.00	1.00	1.00		1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00	0.85		1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	1.00		0.95
Satd. Flow (prot)	1752	3505	1548	1752	3505	1548		1752	3505	1568		1752
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	1.00		0.95
Satd. Flow (perm)	1752	3505	1548	1752	3505	1548		1752	3505	1568		1752
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	113	260	131	93	352	64	13	239	448	61	44	92
RTOR Reduction (vph)	0	0	104	0	0	51	0	0	0	43	0	0
Lane Group Flow (vph)	113	260	27	93	352	13	0	252	448	18	0	136
Confl. Peds. (#/hr)			1			1						
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	Prot
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases			4			8				2		
Actuated Green, G (s)	8.6	16.7	16.7	7.9	16.0	16.0		17.8	24.1	24.1		12.4
Effective Green, g (s)	8.6	16.7	16.7	7.9	16.0	16.0		17.8	24.1	24.1		12.4
Actuated g/C Ratio	0.11	0.21	0.21	0.10	0.20	0.20		0.22	0.30	0.30		0.15
Clearance Time (s)	4.2	5.3	5.3	4.2	5.3	5.3		4.2	5.7	5.7		4.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	187	727	321	171	696	307		387	1049	469		269
v/s Ratio Prot	c0.06	0.07		0.05	c0.10			c0.14	0.13			0.08
v/s Ratio Perm			0.02			0.01				0.01		
v/c Ratio	0.60	0.36	0.08	0.54	0.51	0.04		0.65	0.43	0.04		0.51
Uniform Delay, d1	34.3	27.3	25.7	34.6	28.7	26.1		28.5	22.7	20.0		31.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Incremental Delay, d2	5.4	0.3	0.1	3.5	0.6	0.1		3.9	0.3	0.0		1.5
Delay (s)	39.7	27.6	25.8	38.1	29.3	26.1		32.4	22.9	20.0		32.7
Level of Service	D	C	C	D	C	C		C	C	C		C
Approach Delay (s/veh)		29.9			30.5				25.8			
Approach LOS		C			C				C			

Intersection Summary			
HCM 2000 Control Delay (s/veh)	28.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	80.5	Sum of lost time (s)	19.4
Intersection Capacity Utilization	55.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	424	129
Future Volume (vph)	424	129
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.7	5.7
Lane Util. Factor	0.95	1.00
Frpb, ped/bikes	1.00	1.00
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3505	1568
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3505	1568
Peak-hour factor, PHF	0.88	0.88
Adj. Flow (vph)	482	147
RTOR Reduction (vph)	0	104
Lane Group Flow (vph)	482	43
Confl. Peds. (#/hr)		
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	18.7	18.7
Effective Green, g (s)	18.7	18.7
Actuated g/C Ratio	0.23	0.23
Clearance Time (s)	5.7	5.7
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	814	364
v/s Ratio Prot	c0.14	
v/s Ratio Perm		0.03
v/c Ratio	0.59	0.12
Uniform Delay, d1	27.5	24.4
Progression Factor	1.00	1.00
Incremental Delay, d2	1.2	0.1
Delay (s)	28.7	24.5
Level of Service	C	C
Approach Delay (s/veh)	28.6	
Approach LOS	C	

Intersection Summary

Intersection	
Intersection Delay, s/veh	15.6
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	72	70	40	5	114	58	93	173	6	29	97	54
Future Vol, veh/h	72	70	40	5	114	58	93	173	6	29	97	54
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	99	96	55	7	156	79	127	237	8	40	133	74
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay, s/veh	12.2	14.8	19.4	13.9
HCM LOS	B	B	C	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	34%	100%	0%	100%	0%	16%
Vol Thru, %	64%	0%	64%	0%	66%	54%
Vol Right, %	2%	0%	36%	0%	34%	30%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	272	72	110	5	172	180
LT Vol	93	72	0	5	0	29
Through Vol	173	0	70	0	114	97
RT Vol	6	0	40	0	58	54
Lane Flow Rate	373	99	151	7	236	247
Geometry Grp	2	5	5	5	5	2
Degree of Util (X)	0.637	0.207	0.284	0.014	0.445	0.427
Departure Headway (Hd)	6.15	7.56	6.785	7.553	6.798	6.235
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	589	474	529	474	530	577
Service Time	4.19	5.311	4.536	5.301	4.546	4.283
HCM Lane V/C Ratio	0.633	0.209	0.285	0.015	0.445	0.428
HCM Control Delay, s/veh	19.4	12.3	12.2	10.4	14.9	13.9
HCM Lane LOS	C	B	B	B	B	B
HCM 95th-tile Q	4.5	0.8	1.2	0	2.3	2.1

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Vol, veh/h	29	80	1	89	519	4	620	26
Future Vol, veh/h	29	80	1	89	519	4	620	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None
Storage Length	0	115	-	290	-	100	-	-
Veh in Median Storage, #	0	-	-	-	0	-	0	-
Grade, %	0	-	-	-	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3	3	3
Mvmt Flow	33	91	1	101	590	5	705	30

Major/Minor	Minor2		Major1			Major2		
Conflicting Flow All	1228	367	734	734	0	590	-	0
Stage 1	728	-	-	-	-	-	-	-
Stage 2	499	-	-	-	-	-	-	-
Critical Hdwy	6.86	6.96	6.46	4.16	-	6.46	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.53	2.23	-	2.53	-	-
Pot Cap-1 Maneuver	169	627	488	860	-	603	-	-
Stage 1	436	-	-	-	-	-	-	-
Stage 2	572	-	-	-	-	-	-	-
Platoon blocked, %					-		-	-
Mov Cap-1 Maneuver	148	627	850	850	-	603	-	-
Mov Cap-2 Maneuver	148	-	-	-	-	-	-	-
Stage 1	384	-	-	-	-	-	-	-
Stage 2	568	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	18.25	1.45	0.07
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBU	SBT	SBR
Capacity (veh/h)	850	-	148	627	603	-	-
HCM Lane V/C Ratio	0.12	-	0.223	0.145	0.008	-	-
HCM Ctrl Dly (s/v)	9.8	-	36.3	11.7	11	-	-
HCM Lane LOS	A	-	E	B	B	-	-
HCM 95th %tile Q(veh)	0.4	-	0.8	0.5	0	-	-

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Vol, veh/h	49	0	23	51	0	66	1	8	490	16	3	31	646	22
Future Vol, veh/h	49	0	23	51	0	66	1	8	490	16	3	31	646	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	-	-	80	-	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	56	0	26	58	0	75	1	9	557	18	3	35	734	25

Major/Minor	Minor2			Minor1			Major1				Major2			
Conflicting Flow All	1124	1420	381	1031	1424	288	759	760	0	0	575	575	0	0
Stage 1	825	825	-	586	586	-	-	-	-	-	-	-	-	-
Stage 2	299	595	-	444	837	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.58	6.58	6.98	7.58	6.58	6.98	6.48	4.18	-	-	6.48	4.18	-	-
Critical Hdwy Stg 1	6.58	5.58	-	6.58	5.58	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.58	5.58	-	6.58	5.58	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.54	4.04	3.34	3.54	4.04	3.34	2.54	2.24	-	-	2.54	2.24	-	-
Pot Cap-1 Maneuver	158	133	612	185	132	703	467	835	-	-	612	981	-	-
Stage 1	329	380	-	458	490	-	-	-	-	-	-	-	-	-
Stage 2	680	485	-	557	375	-	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-			-	-
Mov Cap-1 Maneuver	133	125	611	167	125	703	761	761	-	-	917	917	-	-
Mov Cap-2 Maneuver	133	125	-	167	125	-	-	-	-	-	-	-	-	-
Stage 1	315	364	-	452	484	-	-	-	-	-	-	-	-	-
Stage 2	599	479	-	511	359	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	41.61	27.08	0.17	0.44
HCM LOS	E	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	761	-	-	177	293	917	-	-
HCM Lane V/C Ratio	0.013	-	-	0.461	0.454	0.042	-	-
HCM Ctrl Dly (s/v)	9.8	-	-	41.6	27.1	9.1	-	-
HCM Lane LOS	A	-	-	E	D	A	-	-
HCM 95th %tile Q(veh)	0	-	-	2.2	2.2	0.1	-	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	37	91	0	0	26
Future Vol, veh/h	10	37	91	0	0	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	11	42	103	0	0	30

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	103	0	-	0	168	103
Stage 1	-	-	-	-	103	-
Stage 2	-	-	-	-	65	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1482	-	-	-	820	949
Stage 1	-	-	-	-	918	-
Stage 2	-	-	-	-	955	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1482	-	-	-	813	949
Mov Cap-2 Maneuver	-	-	-	-	813	-
Stage 1	-	-	-	-	911	-
Stage 2	-	-	-	-	955	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	1.58	0	8.92
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	383	-	-	-	949
HCM Lane V/C Ratio	0.008	-	-	-	0.031
HCM Ctrl Dly (s/v)	7.4	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	7.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	19	0	18	0	0	0	39	0	0	0	0	52
Future Vol, veh/h	19	0	18	0	0	0	39	0	0	0	0	52
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	22	0	20	0	0	0	44	0	0	0	0	59

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1	0	0	20	0	0	55	55	10	44	65	1
Stage 1	-	-	-	-	-	-	53	53	-	1	1	-
Stage 2	-	-	-	-	-	-	1	1	-	43	64	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1615	-	-	1589	-	-	941	835	1068	955	824	1080
Stage 1	-	-	-	-	-	-	957	848	-	1019	893	-
Stage 2	-	-	-	-	-	-	1019	893	-	969	840	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1615	-	-	1589	-	-	877	823	1068	942	813	1080
Mov Cap-2 Maneuver	-	-	-	-	-	-	877	823	-	942	813	-
Stage 1	-	-	-	-	-	-	944	837	-	1019	893	-
Stage 2	-	-	-	-	-	-	964	893	-	955	829	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	3.73	0	9.32	8.52
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	877	770	-	-	1589	-	-	1080
HCM Lane V/C Ratio	0.051	0.013	-	-	-	-	-	0.055
HCM Ctrl Dly (s/v)	9.3	7.3	0	-	0	-	-	8.5
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	32	483	8	0	721
Future Vol, veh/h	0	32	483	8	0	721
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	36	549	9	0	819

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	279	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	715	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	715	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	715	-
HCM Lane V/C Ratio	-	-	0.051	-
HCM Ctrl Dly (s/v)	-	-	10.3	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.2	-

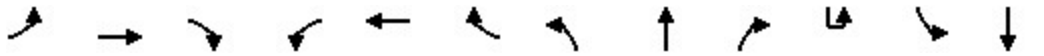
Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	63	269	424	36	35	67
Future Vol, veh/h	63	269	424	36	35	67
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	165	-	-	0	200	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	68	292	461	39	38	73

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	500	0	-	0	890	461
Stage 1	-	-	-	-	461	-
Stage 2	-	-	-	-	429	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1059	-	-	-	312	599
Stage 1	-	-	-	-	633	-
Stage 2	-	-	-	-	654	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1059	-	-	-	292	599
Mov Cap-2 Maneuver	-	-	-	-	292	-
Stage 1	-	-	-	-	592	-
Stage 2	-	-	-	-	654	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	1.64	0	14.36
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1059	-	-	-	292	599
HCM Lane V/C Ratio	0.065	-	-	-	0.13	0.122
HCM Ctrl Dly (s/v)	8.6	-	-	-	19.2	11.8
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.4	0.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	60	199	75	67	310	99	63	363	68	1	110	503
Future Volume (veh/h)	60	199	75	67	310	99	63	363	68	1	110	503
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0		0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Work Zone On Approach		No			No			No				No
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856		1856	1856
Adj Flow Rate, veh/h	67	221	83	74	344	110	70	403	76		122	559
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90		0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3		3	3
Cap, veh/h	132	356	130	178	488	154	134	1198	224		158	1154
Arrive On Green	0.07	0.14	0.14	0.10	0.19	0.19	0.08	0.40	0.40		0.09	0.40
Sat Flow, veh/h	1767	2530	922	1767	2633	828	1767	2964	554		1767	2916
Grp Volume(v), veh/h	67	152	152	74	228	226	70	238	241		122	337
Grp Sat Flow(s),veh/h/ln	1767	1763	1690	1767	1763	1698	1767	1763	1756		1767	1763
Q Serve(g_s), s	3.0	6.6	6.9	3.2	9.9	10.2	3.1	7.6	7.7		5.5	11.7
Cycle Q Clear(g_c), s	3.0	6.6	6.9	3.2	9.9	10.2	3.1	7.6	7.7		5.5	11.7
Prop In Lane	1.00		0.55	1.00		0.49	1.00		0.32		1.00	
Lane Grp Cap(c), veh/h	132	248	238	178	327	315	134	713	710		158	698
V/C Ratio(X)	0.51	0.61	0.64	0.42	0.70	0.72	0.52	0.33	0.34		0.77	0.48
Avail Cap(c_a), veh/h	191	648	621	191	648	624	191	713	710		255	698
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Uniform Delay (d), s/veh	36.3	33.0	33.1	34.4	31.1	31.2	36.3	16.8	16.8		36.3	18.4
Incr Delay (d2), s/veh	3.0	2.4	2.9	1.5	2.7	3.0	3.1	1.3	1.3		7.7	2.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	2.8	2.8	1.4	4.1	4.1	1.4	2.9	2.9		2.5	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	39.3	35.4	36.0	36.0	33.8	34.3	39.4	18.0	18.1		44.0	20.8
LnGrp LOS	D	D	D	D	C	C	D	B	B		D	C
Approach Vol, veh/h		371			528			549				795
Approach Delay, s/veh		36.3			34.3			20.8				24.4
Approach LOS		D			C			C				C

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	39.0	13.9	17.2	12.2	38.3	10.3	20.8
Change Period (Y+Rc), s	4.2	6.0	5.7	* 5.7	6.0	* 6	4.2	5.7
Max Green Setting (Gmax), s	11.8	29.3	8.8	* 30	8.8	* 32	8.8	30.0
Max Q Clear Time (g_c+I1), s	7.5	9.7	5.2	8.9	5.1	13.7	5.0	12.2
Green Ext Time (p_c), s	0.1	2.3	0.0	1.4	0.0	3.3	0.0	2.2

Intersection Summary	
HCM 7th Control Delay, s/veh	27.8
HCM 7th LOS	C

Notes

User approved ignoring U-Turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	103
Future Volume (veh/h)	103
Initial Q (Qb), veh	0
Lane Width Adj.	1.00
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1856
Adj Flow Rate, veh/h	114
Peak Hour Factor	0.90
Percent Heavy Veh, %	3
Cap, veh/h	235
Arrive On Green	0.40
Sat Flow, veh/h	593
Grp Volume(v), veh/h	336
Grp Sat Flow(s),veh/h/ln	1746
Q Serve(g_s), s	11.7
Cycle Q Clear(g_c), s	11.7
Prop In Lane	0.34
Lane Grp Cap(c), veh/h	691
V/C Ratio(X)	0.49
Avail Cap(c_a), veh/h	691
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	18.5
Incr Delay (d2), s/veh	2.4
Initial Q Delay(d3), s/veh	0.0
%ile BackOfQ(50%),veh/ln	4.5
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	20.9
LnGrp LOS	C
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Intersection	
Int Delay, s/veh	14.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	68	276	22	14	367	24	15	23	12	33	45	82
Future Vol, veh/h	68	276	22	14	367	24	15	23	12	33	45	82
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	91	368	29	19	489	32	20	31	16	44	60	109

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	521	0	0	397	0	0	1121	1123	386	1110	1121	505
Stage 1	-	-	-	-	-	-	564	564	-	543	543	-
Stage 2	-	-	-	-	-	-	557	559	-	568	579	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1040	-	-	1156	-	-	183	205	660	186	205	565
Stage 1	-	-	-	-	-	-	509	507	-	522	518	-
Stage 2	-	-	-	-	-	-	513	510	-	506	499	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1040	-	-	1156	-	-	89	178	658	133	178	565
Mov Cap-2 Maneuver	-	-	-	-	-	-	89	178	-	133	178	-
Stage 1	-	-	-	-	-	-	451	450	-	510	506	-
Stage 2	-	-	-	-	-	-	356	498	-	407	443	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	1.63	0.28	43.54	69.82
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	158	330	-	-	61	-	-	247
HCM Lane V/C Ratio	0.422	0.087	-	-	0.016	-	-	0.862
HCM Ctrl Dly (s/v)	43.5	8.8	0	-	8.2	0	-	69.8
HCM Lane LOS	E	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	1.9	0.3	-	-	0	-	-	7.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	78	257	113	70	251	70	12	133	397	87	46	150
Future Volume (vph)	78	257	113	70	251	70	12	133	397	87	46	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.3	5.3	4.2	5.3	5.3		4.2	5.7	5.7		4.2
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00	0.95	1.00		1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00	0.85		1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	1.00		0.95
Satd. Flow (prot)	1752	3505	1568	1752	3505	1568		1752	3505	1568		1752
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	1.00		0.95
Satd. Flow (perm)	1752	3505	1568	1752	3505	1568		1752	3505	1568		1752
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	83	273	120	74	267	74	13	141	422	93	49	160
RTOR Reduction (vph)	0	0	96	0	0	60	0	0	0	71	0	0
Lane Group Flow (vph)	83	273	24	74	267	14	0	154	422	22	0	209
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	Prot
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases			4			8				2		
Actuated Green, G (s)	7.3	14.2	14.2	6.8	13.7	13.7		12.7	16.6	16.6		14.8
Effective Green, g (s)	7.3	14.2	14.2	6.8	13.7	13.7		12.7	16.6	16.6		14.8
Actuated g/C Ratio	0.10	0.20	0.20	0.09	0.19	0.19		0.18	0.23	0.23		0.21
Clearance Time (s)	4.2	5.3	5.3	4.2	5.3	5.3		4.2	5.7	5.7		4.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	178	693	310	165	668	299		309	810	362		361
v/s Ratio Prot	c0.05	c0.08		0.04	0.08			0.09	0.12			c0.12
v/s Ratio Perm			0.02			0.01				0.01		
v/c Ratio	0.47	0.39	0.08	0.45	0.40	0.05		0.50	0.52	0.06		0.58
Uniform Delay, d1	30.4	25.1	23.5	30.7	25.4	23.7		26.7	24.1	21.5		25.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Incremental Delay, d2	1.9	0.4	0.1	1.9	0.4	0.1		1.3	0.6	0.1		2.2
Delay (s)	32.3	25.4	23.6	32.7	25.8	23.8		27.9	24.7	21.6		27.9
Level of Service	C	C	C	C	C	C		C	C	C		C
Approach Delay (s/veh)		26.2			26.7				25.0			
Approach LOS		C			C				C			

Intersection Summary			
HCM 2000 Control Delay (s/veh)	25.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	71.8	Sum of lost time (s)	19.4
Intersection Capacity Utilization	51.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations	↑↑	↱
Traffic Volume (vph)	498	111
Future Volume (vph)	498	111
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.7	5.7
Lane Util. Factor	0.95	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3505	1568
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3505	1568
Peak-hour factor, PHF	0.94	0.94
Adj. Flow (vph)	530	118
RTOR Reduction (vph)	0	72
Lane Group Flow (vph)	530	46
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	18.7	18.7
Effective Green, g (s)	18.7	18.7
Actuated g/C Ratio	0.26	0.26
Clearance Time (s)	5.7	5.7
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	912	408
v/s Ratio Prot	c0.15	
v/s Ratio Perm		0.03
v/c Ratio	0.58	0.11
Uniform Delay, d1	23.1	20.2
Progression Factor	1.00	1.00
Incremental Delay, d2	0.9	0.1
Delay (s)	24.1	20.4
Level of Service	C	C
Approach Delay (s/veh)	24.5	
Approach LOS	C	

Intersection Summary

Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	78	52	14	79	23	54	105	7	25	125	30
Future Vol, veh/h	38	78	52	14	79	23	54	105	7	25	125	30
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	44	91	60	16	92	27	63	122	8	29	145	35
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay, s/veh	9.9	9.7	10.3	10.3
HCM LOS	A	A	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	33%	100%	0%	100%	0%	14%
Vol Thru, %	63%	0%	60%	0%	77%	69%
Vol Right, %	4%	0%	40%	0%	23%	17%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	166	38	130	14	102	180
LT Vol	54	38	0	14	0	25
Through Vol	105	0	78	0	79	125
RT Vol	7	0	52	0	23	30
Lane Flow Rate	193	44	151	16	119	209
Geometry Grp	2	5	5	5	5	2
Degree of Util (X)	0.281	0.078	0.233	0.029	0.189	0.297
Departure Headway (Hd)	5.247	6.331	5.541	6.415	5.748	5.116
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	687	567	648	559	625	705
Service Time	3.254	4.058	3.268	4.146	3.478	3.123
HCM Lane V/C Ratio	0.281	0.078	0.233	0.029	0.19	0.296
HCM Control Delay, s/veh	10.3	9.6	10	9.3	9.8	10.3
HCM Lane LOS	B	A	A	A	A	B
HCM 95th-tile Q	1.2	0.3	0.9	0.1	0.7	1.2

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Vol, veh/h	23	51	4	54	625	5	560	52
Future Vol, veh/h	23	51	4	54	625	5	560	52
Conflicting Peds, #/hr	1	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None
Storage Length	0	115	-	290	-	100	-	-
Veh in Median Storage, #	0	-	-	-	0	-	0	-
Grade, %	0	-	-	-	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87
Heavy Vehicles, %	3	3	3	3	3	3	3	3
Mvmt Flow	26	59	5	62	718	6	644	60

Major/Minor	Minor2		Major1			Major2		
Conflicting Flow All	1179	352	703	703	0	718	-	0
Stage 1	685	-	-	-	-	-	-	-
Stage 2	494	-	-	-	-	-	-	-
Critical Hdwy	6.86	6.96	6.46	4.16	-	6.46	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.53	2.23	-	2.53	-	-
Pot Cap-1 Maneuver	182	642	510	883	-	499	-	-
Stage 1	459	-	-	-	-	-	-	-
Stage 2	576	-	-	-	-	-	-	-
Platoon blocked, %					-		-	-
Mov Cap-1 Maneuver	165	642	832	832	-	499	-	-
Mov Cap-2 Maneuver	165	-	-	-	-	-	-	-
Stage 1	422	-	-	-	-	-	-	-
Stage 2	569	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	17.29	0.82	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBU	SBT	SBR
Capacity (veh/h)	832	-	165	642	499	-	-
HCM Lane V/C Ratio	0.08	-	0.16	0.091	0.012	-	-
HCM Ctrl Dly (s/v)	9.7	-	30.9	11.2	12.3	-	-
HCM Lane LOS	A	-	D	B	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.6	0.3	0	-	-

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Vol, veh/h	32	0	6	39	0	43	1	22	605	47	4	99	471	39
Future Vol, veh/h	32	0	6	39	0	43	1	22	605	47	4	99	471	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	-	-	80	-	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	37	0	7	45	0	49	1	25	695	54	5	114	541	45

Major/Minor	Minor2			Minor1			Major1				Major2			
Conflicting Flow All	1201	1603	293	1283	1598	375	586	586	0	0	749	749	0	0
Stage 1	801	801	-	775	775	-	-	-	-	-	-	-	-	-
Stage 2	401	802	-	507	823	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.56	6.56	6.96	6.46	4.16	-	-	6.46	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.53	4.03	3.33	2.53	2.23	-	-	2.53	2.23	-	-
Pot Cap-1 Maneuver	139	104	700	121	104	620	606	978	-	-	477	849	-	-
Stage 1	342	393	-	355	404	-	-	-	-	-	-	-	-	-
Stage 2	594	392	-	513	384	-	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-			-	-
Mov Cap-1 Maneuver	107	86	700	100	87	620	952	952	-	-	819	819	-	-
Mov Cap-2 Maneuver	107	86	-	100	87	-	-	-	-	-	-	-	-	-
Stage 1	293	336	-	345	392	-	-	-	-	-	-	-	-	-
Stage 2	532	381	-	435	328	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	49.52	45.86	0.3	1.7
HCM LOS	E	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	952	-	-	123	178	819	-	-
HCM Lane V/C Ratio	0.028	-	-	0.355	0.529	0.145	-	-
HCM Ctrl Dly (s/v)	8.9	-	-	49.5	45.9	10.1	-	-
HCM Lane LOS	A	-	-	E	E	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.4	2.7	0.5	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	30	116	64	0	0	18
Future Vol, veh/h	30	116	64	0	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	34	132	73	0	0	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	73	0	-	0	273	73
Stage 1	-	-	-	-	73	-
Stage 2	-	-	-	-	200	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1521	-	-	-	715	987
Stage 1	-	-	-	-	948	-
Stage 2	-	-	-	-	831	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1521	-	-	-	697	987
Mov Cap-2 Maneuver	-	-	-	-	697	-
Stage 1	-	-	-	-	925	-
Stage 2	-	-	-	-	831	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	1.52	0	8.73
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	370	-	-	-	987
HCM Lane V/C Ratio	0.022	-	-	-	0.021
HCM Ctrl Dly (s/v)	7.4	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	59	0	57	0	0	0	28	0	0	0	0	36
Future Vol, veh/h	59	0	57	0	0	0	28	0	0	0	0	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	67	0	65	0	0	0	32	0	0	0	0	41

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1	0	0	65	0	0	168	168	32	135	200	1
Stage 1	-	-	-	-	-	-	166	166	-	1	1	-
Stage 2	-	-	-	-	-	-	1	1	-	134	199	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1615	-	-	1531	-	-	794	723	1038	834	694	1080
Stage 1	-	-	-	-	-	-	833	759	-	1019	893	-
Stage 2	-	-	-	-	-	-	1019	893	-	867	735	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1615	-	-	1531	-	-	731	692	1038	798	664	1080
Mov Cap-2 Maneuver	-	-	-	-	-	-	731	692	-	798	664	-
Stage 1	-	-	-	-	-	-	797	726	-	1019	893	-
Stage 2	-	-	-	-	-	-	981	893	-	829	703	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	3.73	0	10.15	8.46
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	731	763	-	-	1531	-	-	1080
HCM Lane V/C Ratio	0.044	0.042	-	-	-	-	-	0.038
HCM Ctrl Dly (s/v)	10.1	7.3	0	-	0	-	-	8.5
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	21	651	23	0	517
Future Vol, veh/h	0	21	651	23	0	517
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	24	740	26	0	588

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	383	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	612	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	612	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	11.12	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	612	-
HCM Lane V/C Ratio	-	-	0.039	-
HCM Ctrl Dly (s/v)	-	-	11.1	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.1	-

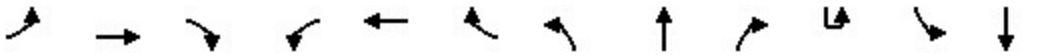
Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	77	436	390	33	15	72
Future Vol, veh/h	77	436	390	33	15	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	165	-	-	0	200	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	82	464	415	35	16	77

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	450	0	-	0	1043	415
Stage 1	-	-	-	-	415	-
Stage 2	-	-	-	-	628	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1105	-	-	-	253	635
Stage 1	-	-	-	-	664	-
Stage 2	-	-	-	-	530	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1105	-	-	-	234	635
Mov Cap-2 Maneuver	-	-	-	-	234	-
Stage 1	-	-	-	-	615	-
Stage 2	-	-	-	-	530	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	1.28	0	13.17
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1105	-	-	-	234	635
HCM Lane V/C Ratio	0.074	-	-	-	0.068	0.121
HCM Ctrl Dly (s/v)	8.5	-	-	-	21.5	11.4
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2	0.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	142	271	51	53	278	99	60	427	42	1	100	315
Future Volume (veh/h)	142	271	51	53	278	99	60	427	42	1	100	315
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0		0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Work Zone On Approach		No			No			No				No
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856		1856	1856
Adj Flow Rate, veh/h	151	288	54	56	296	105	64	454	45		106	335
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		0.94	0.94
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3		3	3
Cap, veh/h	188	414	77	191	411	143	130	1286	127		155	1020
Arrive On Green	0.11	0.14	0.14	0.11	0.16	0.16	0.07	0.40	0.40		0.09	0.39
Sat Flow, veh/h	1767	2970	549	1767	2566	892	1767	3241	320		1767	2626
Grp Volume(v), veh/h	151	169	173	56	201	200	64	246	253		106	223
Grp Sat Flow(s),veh/h/ln	1767	1763	1757	1767	1763	1695	1767	1763	1798		1767	1763
Q Serve(g_s), s	6.7	7.4	7.6	2.4	8.7	9.0	2.8	7.9	8.0		4.7	7.1
Cycle Q Clear(g_c), s	6.7	7.4	7.6	2.4	8.7	9.0	2.8	7.9	8.0		4.7	7.1
Prop In Lane	1.00		0.31	1.00		0.53	1.00		0.18		1.00	
Lane Grp Cap(c), veh/h	188	245	245	191	282	271	130	699	713		155	685
V/C Ratio(X)	0.81	0.69	0.71	0.29	0.71	0.74	0.49	0.35	0.35		0.68	0.33
Avail Cap(c_a), veh/h	281	700	698	193	613	589	171	699	713		215	685
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Uniform Delay (d), s/veh	35.2	33.0	33.1	33.1	32.1	32.2	35.9	17.0	17.1		35.7	17.3
Incr Delay (d2), s/veh	9.8	3.4	3.7	0.8	3.4	3.9	2.9	1.4	1.4		5.2	1.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	3.1	3.2	1.0	3.7	3.7	1.2	3.0	3.1		2.1	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	45.0	36.5	36.8	33.9	35.5	36.1	38.7	18.4	18.4		40.9	18.5
LnGrp LOS	D	D	D	C	D	D	D	B	B		D	B
Approach Vol, veh/h		493			457			563				550
Approach Delay, s/veh		39.2			35.5			20.7				22.9
Approach LOS		D			D			C				C

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.3	38.0	14.4	16.9	11.9	37.3	12.8	18.6
Change Period (Y+Rc), s	4.2	6.0	5.7	* 5.7	6.0	* 6	4.2	5.7
Max Green Setting (Gmax), s	9.8	29.3	8.8	* 32	7.8	* 31	12.8	28.0
Max Q Clear Time (g_c+I1), s	6.7	10.0	4.4	9.6	4.8	9.3	8.7	11.0
Green Ext Time (p_c), s	0.1	2.4	0.0	1.7	0.0	2.2	0.1	1.9

Intersection Summary	
HCM 7th Control Delay, s/veh	29.0
HCM 7th LOS	C

Notes

User approved ignoring U-Turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	102
Future Volume (veh/h)	102
Initial Q (Qb), veh	0
Lane Width Adj.	1.00
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1856
Adj Flow Rate, veh/h	109
Peak Hour Factor	0.94
Percent Heavy Veh, %	3
Cap, veh/h	326
Arrive On Green	0.39
Sat Flow, veh/h	840
Grp Volume(v), veh/h	221
Grp Sat Flow(s),veh/h/ln	1703
Q Serve(g_s), s	7.3
Cycle Q Clear(g_c), s	7.3
Prop In Lane	0.49
Lane Grp Cap(c), veh/h	662
V/C Ratio(X)	0.33
Avail Cap(c_a), veh/h	662
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	17.3
Incr Delay (d2), s/veh	1.4
Initial Q Delay(d3), s/veh	0.0
%ile BackOfQ(50%),veh/ln	2.7
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	18.7
LnGrp LOS	B
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Intersection	
Int Delay, s/veh	6.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	328	24	21	366	32	15	72	29	18	46	42
Future Vol, veh/h	20	328	24	21	366	32	15	72	29	18	46	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	22	364	27	23	407	36	17	80	32	20	51	47

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	442	0	0	391	0	0	901	911	378	920	907	424
Stage 1	-	-	-	-	-	-	422	422	-	471	471	-
Stage 2	-	-	-	-	-	-	479	489	-	449	436	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1113	-	-	1162	-	-	258	273	667	250	275	628
Stage 1	-	-	-	-	-	-	607	586	-	571	558	-
Stage 2	-	-	-	-	-	-	566	548	-	587	578	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1113	-	-	1162	-	-	184	259	667	159	261	628
Mov Cap-2 Maneuver	-	-	-	-	-	-	184	259	-	159	261	-
Stage 1	-	-	-	-	-	-	592	571	-	556	543	-
Stage 2	-	-	-	-	-	-	462	533	-	468	564	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.45	0.41	27.28	24.87
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	288	95	-	-	89	-	-	297
HCM Lane V/C Ratio	0.448	0.02	-	-	0.02	-	-	0.397
HCM Ctrl Dly (s/v)	27.3	8.3	0	-	8.2	0	-	24.9
HCM Lane LOS	D	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	2.2	0.1	-	-	0.1	-	-	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	49	0	23	51	0	66	1	8	490	16	3	31
Future Volume (vph)	49	0	23	51	0	66	1	8	490	16	3	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2		4.2	4.2			4.2	6.0	6.0		4.2
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	0.95	1.00		1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00		1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00		1.00
Frt	1.00	0.85		1.00	0.85			1.00	1.00	0.85		1.00
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (prot)	1736	1553		1736	1553			1735	3471	1553		1736
Flt Permitted	0.95	1.00		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (perm)	1736	1553		1736	1553			1735	3471	1553		1736
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	56	0	26	58	0	75	1	9	557	18	3	35
RTOR Reduction (vph)	0	22	0	0	65	0	0	0	0	10	0	0
Lane Group Flow (vph)	56	4	0	58	10	0	0	10	557	8	0	38
Confl. Peds. (#/hr)								1				
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Prot	NA		Prot	NA		Prot	Prot	NA	Perm	Prot	Prot
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases										2		
Actuated Green, G (s)	3.9	9.0		2.2	7.3			0.9	25.4	25.4		2.2
Effective Green, g (s)	3.9	9.0		2.2	7.3			0.9	25.4	25.4		2.2
Actuated g/C Ratio	0.07	0.16		0.04	0.13			0.02	0.44	0.44		0.04
Clearance Time (s)	4.2	4.2		4.2	4.2			4.2	6.0	6.0		4.2
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	117	243		66	197			27	1535	687		66
v/s Ratio Prot	0.03	0.00		c0.03	c0.01			0.01	0.16			c0.02
v/s Ratio Perm										0.01		
v/c Ratio	0.48	0.02		0.88	0.05			0.37	0.36	0.01		0.58
Uniform Delay, d1	25.8	20.5		27.5	22.0			28.0	10.6	9.0		27.1
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00		1.00
Incremental Delay, d2	3.1	0.0		69.1	0.1			8.4	0.1	0.0		11.6
Delay (s)	28.8	20.5		96.6	22.1			36.3	10.8	9.0		38.7
Level of Service	C	C		F	C			D	B	A		D
Approach Delay (s/veh)		26.2			54.6				11.2			
Approach LOS		C			D				B			

Intersection Summary			
HCM 2000 Control Delay (s/veh)	16.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	57.4	Sum of lost time (s)	18.6
Intersection Capacity Utilization	46.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	646	22
Future Volume (vph)	646	22
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	0.95	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	1.00	
Flt Protected	1.00	
Satd. Flow (prot)	3452	
Flt Permitted	1.00	
Satd. Flow (perm)	3452	
Peak-hour factor, PHF	0.88	0.88
Adj. Flow (vph)	734	25
RTOR Reduction (vph)	2	0
Lane Group Flow (vph)	757	0
Confl. Peds. (#/hr)		1
Heavy Vehicles (%)	4%	4%
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	26.7	
Effective Green, g (s)	26.7	
Actuated g/C Ratio	0.47	
Clearance Time (s)	6.0	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	1605	
v/s Ratio Prot	c0.22	
v/s Ratio Perm		
v/c Ratio	0.47	
Uniform Delay, d1	10.5	
Progression Factor	1.00	
Incremental Delay, d2	0.2	
Delay (s)	10.7	
Level of Service	B	
Approach Delay (s/veh)	12.1	
Approach LOS	B	

Intersection Summary

Intersection	
Int Delay, s/veh	7.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↰	↱		↰	↱	
Traffic Vol, veh/h	68	276	22	14	367	24	15	23	12	33	45	82
Future Vol, veh/h	68	276	22	14	367	24	15	23	12	33	45	82
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	250	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	91	368	29	19	489	32	20	31	16	44	60	109

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	521	0	0	397	0	0	1121	1123	386	1110	1121	505
Stage 1	-	-	-	-	-	-	564	564	-	543	543	-
Stage 2	-	-	-	-	-	-	557	559	-	568	579	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1040	-	-	1156	-	-	183	205	660	186	205	565
Stage 1	-	-	-	-	-	-	509	507	-	522	518	-
Stage 2	-	-	-	-	-	-	513	510	-	506	499	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1040	-	-	1156	-	-	89	178	658	133	178	565
Mov Cap-2 Maneuver	-	-	-	-	-	-	89	178	-	133	178	-
Stage 1	-	-	-	-	-	-	451	450	-	510	506	-
Stage 2	-	-	-	-	-	-	356	498	-	407	443	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	1.63	0.28	33.82	31.79
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	89	237	330	-	-	61	-	-	133	319
HCM Lane V/C Ratio	0.225	0.197	0.087	-	-	0.016	-	-	0.332	0.531
HCM Ctrl Dly (s/v)	57	23.9	8.8	0	-	8.2	0	-	45	28.3
HCM Lane LOS	F	C	A	A	-	A	A	-	E	D
HCM 95th %tile Q(veh)	0.8	0.7	0.3	-	-	0	-	-	1.3	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	32	0	6	39	0	43	1	22	605	47	4	99
Future Volume (vph)	32	0	6	39	0	43	1	22	605	47	4	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2		4.2	4.2			4.2	6.0	6.0		4.2
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	0.95	1.00		1.00
Frt	1.00	0.85		1.00	0.85			1.00	1.00	0.85		1.00
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (prot)	1752	1568		1752	1568			1752	3505	1568		1752
Flt Permitted	0.95	1.00		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (perm)	1752	1568		1752	1568			1752	3505	1568		1752
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	37	0	7	45	0	49	1	25	695	54	5	114
RTOR Reduction (vph)	0	6	0	0	43	0	0	0	0	32	0	0
Lane Group Flow (vph)	37	1	0	45	6	0	0	26	695	22	0	119
Turn Type	Prot	NA		Prot	NA		Prot	Prot	NA	Perm	Prot	Prot
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases										2		
Actuated Green, G (s)	2.2	5.3		4.2	7.3			0.9	24.7	24.7		6.6
Effective Green, g (s)	2.2	5.3		4.2	7.3			0.9	24.7	24.7		6.6
Actuated g/C Ratio	0.04	0.09		0.07	0.12			0.02	0.42	0.42		0.11
Clearance Time (s)	4.2	4.2		4.2	4.2			4.2	6.0	6.0		4.2
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	64	139		123	192			26	1457	652		194
v/s Ratio Prot	0.02	0.00		c0.03	c0.00			0.01	c0.20			c0.07
v/s Ratio Perm										0.01		
v/c Ratio	0.58	0.00		0.37	0.03			1.00	0.48	0.03		0.61
Uniform Delay, d1	28.1	24.6		26.3	22.9			29.3	12.6	10.3		25.2
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00		1.00
Incremental Delay, d2	12.0	0.0		1.8	0.1			176.5	0.2	0.0		5.6
Delay (s)	40.2	24.7		28.2	23.0			205.8	12.9	10.3		30.8
Level of Service	D	C		C	C			F	B	B		C
Approach Delay (s/veh)		37.7			25.5				19.2			
Approach LOS		D			C				B			

Intersection Summary			
HCM 2000 Control Delay (s/veh)	17.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	59.4	Sum of lost time (s)	18.6
Intersection Capacity Utilization	44.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	471	39
Future Volume (vph)	471	39
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	0.95	
Frt	0.99	
Flt Protected	1.00	
Satd. Flow (prot)	3464	
Flt Permitted	1.00	
Satd. Flow (perm)	3464	
Peak-hour factor, PHF	0.87	0.87
Adj. Flow (vph)	541	45
RTOR Reduction (vph)	5	0
Lane Group Flow (vph)	581	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	30.4	
Effective Green, g (s)	30.4	
Actuated g/C Ratio	0.51	
Clearance Time (s)	6.0	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	1772	
v/s Ratio Prot	0.17	
v/s Ratio Perm		
v/c Ratio	0.33	
Uniform Delay, d1	8.5	
Progression Factor	1.00	
Incremental Delay, d2	0.1	
Delay (s)	8.6	
Level of Service	A	
Approach Delay (s/veh)	12.4	
Approach LOS	B	

Intersection Summary

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↰	↱		↰	↱	
Traffic Vol, veh/h	20	328	24	21	366	32	15	72	29	18	46	42
Future Vol, veh/h	20	328	24	21	366	32	15	72	29	18	46	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	250	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	22	364	27	23	407	36	17	80	32	20	51	47

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	442	0	0	391	0	0	901	911	378	920	907	424
Stage 1	-	-	-	-	-	-	422	422	-	471	471	-
Stage 2	-	-	-	-	-	-	479	489	-	449	436	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1113	-	-	1162	-	-	258	273	667	250	275	628
Stage 1	-	-	-	-	-	-	607	586	-	571	558	-
Stage 2	-	-	-	-	-	-	566	548	-	587	578	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1113	-	-	1162	-	-	184	259	667	159	261	628
Mov Cap-2 Maneuver	-	-	-	-	-	-	184	259	-	159	261	-
Stage 1	-	-	-	-	-	-	592	571	-	556	543	-
Stage 2	-	-	-	-	-	-	462	533	-	468	564	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.45	0.41	23.19	20.71
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	184	314	95	-	-	89	-	-	159	361
HCM Lane V/C Ratio	0.091	0.357	0.02	-	-	0.02	-	-	0.126	0.271
HCM Ctrl Dly (s/v)	26.5	22.7	8.3	0	-	8.2	0	-	30.9	18.6
HCM Lane LOS	D	C	A	A	-	A	A	-	D	C
HCM 95th %tile Q(veh)	0.3	1.6	0.1	-	-	0.1	-	-	0.4	1.1

Intersection: 1: Lovers Lane & Walnut Avenue

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	R	UL	T	T	R
Maximum Queue (ft)	91	133	124	70	171	160	120	41	282	139	153	41
Average Queue (ft)	42	58	42	25	56	70	48	13	117	66	70	14
95th Queue (ft)	80	102	89	51	113	128	93	32	197	118	122	34
Link Distance (ft)		792	792			2525	2525			2492	2492	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300			180	300			270	180			100
Storage Blk Time (%)									1		3	
Queuing Penalty (veh)									2		2	

Intersection: 1: Lovers Lane & Walnut Avenue

Movement	SB	SB	SB	SB
Directions Served	UL	T	T	R
Maximum Queue (ft)	113	166	139	88
Average Queue (ft)	61	94	70	30
95th Queue (ft)	104	148	126	59
Link Distance (ft)		2524	2524	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	220			100
Storage Blk Time (%)			2	0
Queuing Penalty (veh)			3	0

Intersection: 2: Pinkham Street & K Avenue

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	47	59	22	106	186	90
Average Queue (ft)	22	27	1	39	58	46
95th Queue (ft)	36	50	10	76	108	77
Link Distance (ft)		1330		2545	930	2251
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	200		150			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: Lovers Lane & K Avenue

Movement	EB	EB	NB	SB	SB	SB
Directions Served	L	R	UL	U	T	TR
Maximum Queue (ft)	77	67	118	24	34	30
Average Queue (ft)	22	32	33	1	1	1
95th Queue (ft)	49	56	86	8	11	10
Link Distance (ft)	2545				2492	2492
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		115	290	100		
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 5: Lovers Lane & Sunnyside Avenue

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	UL	T	T	R	UL	T	TR
Maximum Queue (ft)	94	65	158	65	50	148	175	43	73	214	200
Average Queue (ft)	31	17	39	24	13	74	66	7	21	93	84
95th Queue (ft)	64	44	82	52	37	137	121	26	54	173	170
Link Distance (ft)		670		717		470	470			1238	1238
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	100		250		80			100	300		
Storage Blk Time (%)	0					8	2				
Queuing Penalty (veh)	0					1	0				

Intersection: 7: Sunnyside Avenue & Driveway C

Movement	SB
Directions Served	LR
Maximum Queue (ft)	49
Average Queue (ft)	17
95th Queue (ft)	44
Link Distance (ft)	216
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Driveway D & Sunnyside Avenue

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	55	57
Average Queue (ft)	24	34
95th Queue (ft)	51	56
Link Distance (ft)	221	222
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Lovers Lane & Driveway E

Movement	WB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	21
95th Queue (ft)	43
Link Distance (ft)	200
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: Caldwell Avenue & Pinkham Street

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	R	L	R
Maximum Queue (ft)	74	56	55	50	47
Average Queue (ft)	16	4	2	19	24
95th Queue (ft)	45	25	18	45	38
Link Distance (ft)		1248	1248		1815
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	165			200	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 11: Lovers Lane & Caldwell Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	TR	UL	T	TR
Maximum Queue (ft)	113	157	133	136	231	200	74	158	136	249	376	354
Average Queue (ft)	49	76	52	56	89	89	44	86	79	96	171	135
95th Queue (ft)	93	128	102	113	163	161	73	146	131	199	305	278
Link Distance (ft)		1215	1215		1121	1121		765	765		750	750
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	230			90			150			125		
Storage Blk Time (%)				5	7			0		2	20	
Queuing Penalty (veh)				8	5			0		5	22	

Intersection: 12: Road 148 & Caldwell Avenue

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	78	94	53	47	52	79
Average Queue (ft)	20	7	12	20	21	40
95th Queue (ft)	60	39	35	41	48	67
Link Distance (ft)	3994	5284		2538		2586
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			250		250	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 21: Bend

Movement	SB	SB
Directions Served	T	
Maximum Queue (ft)	30	103
Average Queue (ft)	1	3
95th Queue (ft)	10	34
Link Distance (ft)	765	765
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 48

Intersection: 1: Lovers Lane & Walnut Avenue

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	R	UL	T	T	R
Maximum Queue (ft)	118	88	123	87	69	154	116	41	215	214	239	200
Average Queue (ft)	62	51	45	29	38	78	40	13	100	90	100	25
95th Queue (ft)	106	86	85	65	75	127	85	32	177	170	178	83
Link Distance (ft)		796	796			2525	2525			2492	2492	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300			180	300			270	180			100
Storage Blk Time (%)									2	1	9	
Queuing Penalty (veh)									3	2	8	

Intersection: 1: Lovers Lane & Walnut Avenue

Movement	SB	SB	SB	SB
Directions Served	UL	T	T	R
Maximum Queue (ft)	219	173	148	106
Average Queue (ft)	112	102	81	25
95th Queue (ft)	182	162	144	57
Link Distance (ft)		2524	2524	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	220			100
Storage Blk Time (%)	0		5	0
Queuing Penalty (veh)	1		5	0

Intersection: 2: Pinkham Street & K Avenue

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	60	67	25	67	88	53
Average Queue (ft)	15	31	8	23	39	36
95th Queue (ft)	38	55	25	45	65	58
Link Distance (ft)		1330		2545	930	2251
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	200		150			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: Lovers Lane & K Avenue

Movement	EB	EB	NB	SB
Directions Served	L	R	UL	U
Maximum Queue (ft)	52	74	74	24
Average Queue (ft)	20	27	16	1
95th Queue (ft)	45	54	51	8
Link Distance (ft)	2545			
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		115	290	100
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Lovers Lane & Sunnyside Avenue

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	UL	T	T	R	UL	T	TR
Maximum Queue (ft)	51	31	87	41	50	198	195	25	139	164	116
Average Queue (ft)	22	9	32	16	13	93	87	10	52	68	48
95th Queue (ft)	50	31	64	33	39	169	163	29	101	138	105
Link Distance (ft)		670		717		470	470			1238	1238
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	100		250		80			100	300		
Storage Blk Time (%)						10	5				
Queuing Penalty (veh)						2	2				

Intersection: 7: Sunnyside Avenue & Driveway C

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	54	67
Average Queue (ft)	3	16
95th Queue (ft)	21	45
Link Distance (ft)	717	216
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Driveway D & Sunnyside Avenue

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	50	54
Average Queue (ft)	24	23
95th Queue (ft)	50	48
Link Distance (ft)	221	222
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Lovers Lane & Driveway E

Movement	WB
Directions Served	R
Maximum Queue (ft)	54
Average Queue (ft)	17
95th Queue (ft)	44
Link Distance (ft)	200
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: Caldwell Avenue & Pinkham Street

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	R	L	R
Maximum Queue (ft)	53	36	45	28	69
Average Queue (ft)	17	1	2	11	27
95th Queue (ft)	42	12	15	31	52
Link Distance (ft)		1248	1248		1815
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	165			200	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 11: Lovers Lane & Caldwell Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	TR	UL	T	TR
Maximum Queue (ft)	223	141	121	75	119	140	118	142	154	221	175	178
Average Queue (ft)	106	88	57	37	81	85	52	90	85	86	88	59
95th Queue (ft)	177	135	103	73	123	131	98	141	137	157	156	120
Link Distance (ft)		1215	1215		1121	1121		765	765		750	750
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	230			90			150			125		
Storage Blk Time (%)	0			0	6			0		6	1	
Queuing Penalty (veh)	0			0	3			0		9	1	

Intersection: 12: Road 148 & Caldwell Avenue

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	71	74	31	55	49	72
Average Queue (ft)	9	10	10	34	9	33
95th Queue (ft)	40	43	31	54	33	51
Link Distance (ft)	3994	5284		2538		2586
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			250		250	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 21: Bend

Movement	SB
Directions Served	
Maximum Queue (ft)	44
Average Queue (ft)	1
95th Queue (ft)	14
Link Distance (ft)	765
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

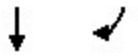
Network Summary

Network wide Queuing Penalty: 36

Appendix L: Cumulative 5-Year plus Buildout Traffic Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	106	229	118	84	310	56	11	227	419	58	39	81
Future Volume (vph)	106	229	118	84	310	56	11	227	419	58	39	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.3	5.3	4.2	5.3	5.3		4.2	5.7	5.7		4.2
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00	0.95	1.00		1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99		1.00	1.00	1.00		1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00	0.85		1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	1.00		0.95
Satd. Flow (prot)	1752	3505	1548	1752	3505	1548		1752	3505	1568		1752
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	1.00		0.95
Satd. Flow (perm)	1752	3505	1548	1752	3505	1548		1752	3505	1568		1752
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	120	260	134	95	352	64	13	258	476	66	44	92
RTOR Reduction (vph)	0	0	102	0	0	51	0	0	0	46	0	0
Lane Group Flow (vph)	120	260	32	95	352	13	0	271	476	20	0	136
Confl. Peds. (#/hr)			1			1						
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	Prot
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases			4			8				2		
Actuated Green, G (s)	11.3	20.2	20.2	8.2	17.1	17.1		18.6	25.3	25.3		12.2
Effective Green, g (s)	11.3	20.2	20.2	8.2	17.1	17.1		18.6	25.3	25.3		12.2
Actuated g/C Ratio	0.13	0.24	0.24	0.10	0.20	0.20		0.22	0.30	0.30		0.14
Clearance Time (s)	4.2	5.3	5.3	4.2	5.3	5.3		4.2	5.7	5.7		4.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	232	830	366	168	702	310		382	1039	465		250
v/s Ratio Prot	c0.07	c0.07		0.05	c0.10			c0.15	0.14			0.08
v/s Ratio Perm			0.02			0.01				0.01		
v/c Ratio	0.52	0.31	0.09	0.57	0.50	0.04		0.71	0.46	0.04		0.54
Uniform Delay, d1	34.5	26.8	25.4	36.8	30.3	27.5		30.9	24.4	21.4		34.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Incremental Delay, d2	1.9	0.2	0.1	4.3	0.6	0.1		5.9	0.3	0.0		2.4
Delay (s)	36.4	27.0	25.5	41.2	30.9	27.5		36.8	24.7	21.4		36.4
Level of Service	D	C	C	D	C	C		D	C	C		D
Approach Delay (s/veh)		28.8			32.4				28.5			
Approach LOS		C			C				C			

Intersection Summary			
HCM 2000 Control Delay (s/veh)	30.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	85.3	Sum of lost time (s)	19.4
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	437	129
Future Volume (vph)	437	129
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.7	5.7
Lane Util. Factor	0.95	1.00
Frpb, ped/bikes	1.00	1.00
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3505	1568
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3505	1568
Peak-hour factor, PHF	0.88	0.88
Adj. Flow (vph)	497	147
RTOR Reduction (vph)	0	105
Lane Group Flow (vph)	497	42
Confl. Peds. (#/hr)		
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	18.9	18.9
Effective Green, g (s)	18.9	18.9
Actuated g/C Ratio	0.22	0.22
Clearance Time (s)	5.7	5.7
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	776	347
v/s Ratio Prot	c0.14	
v/s Ratio Perm		0.03
v/c Ratio	0.64	0.12
Uniform Delay, d1	30.1	26.6
Progression Factor	1.00	1.00
Incremental Delay, d2	1.8	0.2
Delay (s)	31.9	26.7
Level of Service	C	C
Approach Delay (s/veh)	31.7	
Approach LOS	C	

Intersection Summary

Intersection	
Intersection Delay, s/veh	17.5
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	72	70	40	5	114	94	93	173	6	33	111	54
Future Vol, veh/h	72	70	40	5	114	94	93	173	6	33	111	54
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	99	96	55	7	156	129	127	237	8	45	152	74
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay, s/veh	12.9	17.6	21.7	15.9
HCM LOS	B	C	C	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	34%	100%	0%	100%	0%	17%
Vol Thru, %	64%	0%	64%	0%	55%	56%
Vol Right, %	2%	0%	36%	0%	45%	27%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	272	72	110	5	208	198
LT Vol	93	72	0	5	0	33
Through Vol	173	0	70	0	114	111
RT Vol	6	0	40	0	94	54
Lane Flow Rate	373	99	151	7	285	271
Geometry Grp	2	5	5	5	5	2
Degree of Util (X)	0.669	0.216	0.297	0.015	0.547	0.493
Departure Headway (Hd)	6.464	7.877	7.099	7.747	6.907	6.538
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	559	455	505	461	521	548
Service Time	4.528	5.652	4.874	5.515	4.675	4.608
HCM Lane V/C Ratio	0.667	0.218	0.299	0.015	0.547	0.495
HCM Control Delay, s/veh	21.7	12.8	12.9	10.6	17.8	15.9
HCM Lane LOS	C	B	B	B	C	C
HCM 95th-tile Q	5	0.8	1.2	0	3.3	2.7

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Vol, veh/h	29	84	8	125	565	4	638	26
Future Vol, veh/h	29	84	8	125	565	4	638	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None
Storage Length	0	115	-	290	-	100	-	-
Veh in Median Storage, #	0	-	-	-	0	-	0	-
Grade, %	0	-	-	-	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3	3	3
Mvmt Flow	33	95	9	142	642	5	725	30

Major/Minor	Minor2		Major1			Major2		
Conflicting Flow All	1372	377	755	755	0	642	-	0
Stage 1	749	-	-	-	-	-	-	-
Stage 2	623	-	-	-	-	-	-	-
Critical Hdwy	6.86	6.96	6.46	4.16	-	6.46	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.53	2.23	-	2.53	-	-
Pot Cap-1 Maneuver	136	618	473	845	-	559	-	-
Stage 1	425	-	-	-	-	-	-	-
Stage 2	494	-	-	-	-	-	-	-
Platoon blocked, %					-		-	-
Mov Cap-1 Maneuver	109	618	792	792	-	559	-	-
Mov Cap-2 Maneuver	109	-	-	-	-	-	-	-
Stage 1	344	-	-	-	-	-	-	-
Stage 2	490	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	22.12	2.02	0.07
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBU	SBT	SBR
Capacity (veh/h)	792	-	109	618	559	-	-
HCM Lane V/C Ratio	0.191	-	0.302	0.155	0.008	-	-
HCM Ctrl Dly (s/v)	10.6	-	51.8	11.9	11.5	-	-
HCM Lane LOS	B	-	F	B	B	-	-
HCM 95th %tile Q(veh)	0.7	-	1.2	0.5	0	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	24	673	7	0	731
Future Vol, veh/h	0	24	673	7	0	731
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	27	765	8	0	831

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	386	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	609	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	609	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	11.19	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	609	-
HCM Lane V/C Ratio	-	-	0.045	-
HCM Ctrl Dly (s/v)	-	-	11.2	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.1	-

Intersection	
Int Delay, s/veh	11.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Vol, veh/h	49	0	23	79	0	131	1	8	493	28	7	49	653	22
Future Vol, veh/h	49	0	23	79	0	131	1	8	493	28	7	49	653	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	-	-	80	-	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Mvmt Flow	56	0	26	90	0	149	1	9	560	32	8	56	742	25

Major/Minor	Minor2			Minor1			Major1				Major2			
Conflicting Flow All	1183	1495	385	1095	1492	296	767	768	0	0	592	592	0	0
Stage 1	883	883	-	597	597	-	-	-	-	-	-	-	-	-
Stage 2	301	613	-	498	895	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.58	6.58	6.98	7.58	6.58	6.98	6.48	4.18	-	-	6.48	4.18	-	-
Critical Hdwy Stg 1	6.58	5.58	-	6.58	5.58	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.58	5.58	-	6.58	5.58	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.54	4.04	3.34	3.54	4.04	3.34	2.54	2.24	-	-	2.54	2.24	-	-
Pot Cap-1 Maneuver	142	120	608	166	120	694	461	829	-	-	597	966	-	-
Stage 1	303	357	-	452	485	-	-	-	-	-	-	-	-	-
Stage 2	678	477	-	517	353	-	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-			-	-
Mov Cap-1 Maneuver	102	109	607	145	110	694	755	755	-	-	853	853	-	-
Mov Cap-2 Maneuver	102	109	-	145	110	-	-	-	-	-	-	-	-	-
Stage 1	280	330	-	446	478	-	-	-	-	-	-	-	-	-
Stage 2	526	470	-	458	326	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	62.55	58.62	0.17	0.73
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	755	-	-	139	286	853	-	-
HCM Lane V/C Ratio	0.014	-	-	0.589	0.835	0.075	-	-
HCM Ctrl Dly (s/v)	9.8	-	-	62.6	58.6	9.6	-	-
HCM Lane LOS	A	-	-	F	F	A	-	-
HCM 95th %tile Q(veh)	0	-	-	3	7	0.2	-	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	30	47	117	0	0	93
Future Vol, veh/h	30	47	117	0	0	93
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	34	53	133	0	0	106

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	133	0	-	0	255	133
Stage 1	-	-	-	-	133	-
Stage 2	-	-	-	-	122	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1446	-	-	-	732	914
Stage 1	-	-	-	-	891	-
Stage 2	-	-	-	-	901	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1446	-	-	-	714	914
Mov Cap-2 Maneuver	-	-	-	-	714	-
Stage 1	-	-	-	-	869	-
Stage 2	-	-	-	-	901	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	2.94	0	9.46
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	701	-	-	-	914
HCM Lane V/C Ratio	0.024	-	-	-	0.116
HCM Ctrl Dly (s/v)	7.6	0	-	-	9.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	37	91	0	0	26
Future Vol, veh/h	10	37	91	0	0	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	11	42	103	0	0	30

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	103	0	-	0	168	103
Stage 1	-	-	-	-	103	-
Stage 2	-	-	-	-	65	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1482	-	-	-	820	949
Stage 1	-	-	-	-	918	-
Stage 2	-	-	-	-	955	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1482	-	-	-	813	949
Mov Cap-2 Maneuver	-	-	-	-	813	-
Stage 1	-	-	-	-	911	-
Stage 2	-	-	-	-	955	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	1.58	0	8.92
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	383	-	-	-	949
HCM Lane V/C Ratio	0.008	-	-	-	0.031
HCM Ctrl Dly (s/v)	7.4	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	7.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	19	0	18	0	0	0	39	0	0	0	0	52
Future Vol, veh/h	19	0	18	0	0	0	39	0	0	0	0	52
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	22	0	20	0	0	0	44	0	0	0	0	59

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1	0	0	20	0	0	55	55	10	44	65	1
Stage 1	-	-	-	-	-	-	53	53	-	1	1	-
Stage 2	-	-	-	-	-	-	1	1	-	43	64	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1615	-	-	1589	-	-	941	835	1068	955	824	1080
Stage 1	-	-	-	-	-	-	957	848	-	1019	893	-
Stage 2	-	-	-	-	-	-	1019	893	-	969	840	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1615	-	-	1589	-	-	877	823	1068	942	813	1080
Mov Cap-2 Maneuver	-	-	-	-	-	-	877	823	-	942	813	-
Stage 1	-	-	-	-	-	-	944	837	-	1019	893	-
Stage 2	-	-	-	-	-	-	964	893	-	955	829	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	3.73	0	9.32	8.52
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	877	770	-	-	1589	-	-	1080
HCM Lane V/C Ratio	0.051	0.013	-	-	-	-	-	0.055
HCM Ctrl Dly (s/v)	9.3	7.3	0	-	0	-	-	8.5
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	32	498	8	0	756
Future Vol, veh/h	0	32	498	8	0	756
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	36	566	9	0	859

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	288	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	706	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	706	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.37	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	706	-
HCM Lane V/C Ratio	-	-	0.051	-
HCM Ctrl Dly (s/v)	-	-	10.4	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.2	-

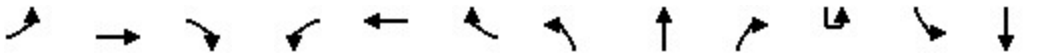
Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	63	274	438	36	42	74
Future Vol, veh/h	63	274	438	36	42	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	165	-	-	0	200	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	68	298	476	39	46	80

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	515	0	-	0	911	476
Stage 1	-	-	-	-	476	-
Stage 2	-	-	-	-	435	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1045	-	-	-	303	587
Stage 1	-	-	-	-	623	-
Stage 2	-	-	-	-	651	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1045	-	-	-	283	587
Mov Cap-2 Maneuver	-	-	-	-	283	-
Stage 1	-	-	-	-	582	-
Stage 2	-	-	-	-	651	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	1.62	0	15.01
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1045	-	-	-	283	587
HCM Lane V/C Ratio	0.066	-	-	-	0.161	0.137
HCM Ctrl Dly (s/v)	8.7	-	-	-	20.1	12.1
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.6	0.5



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	65	199	82	67	310	102	63	370	68	1	117	517
Future Volume (veh/h)	65	199	82	67	310	102	63	370	68	1	117	517
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0		0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Work Zone On Approach		No			No			No				No
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856		1856	1856
Adj Flow Rate, veh/h	72	221	91	74	344	113	70	411	76		130	574
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90		0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3		3	3
Cap, veh/h	134	351	140	177	483	156	133	1204	221		164	1143
Arrive On Green	0.08	0.14	0.14	0.10	0.18	0.18	0.08	0.40	0.40		0.09	0.40
Sat Flow, veh/h	1767	2460	981	1767	2614	844	1767	2974	546		1767	2855
Grp Volume(v), veh/h	72	156	156	74	230	227	70	242	245		130	354
Grp Sat Flow(s),veh/h/ln	1767	1763	1679	1767	1763	1695	1767	1763	1757		1767	1763
Q Serve(g_s), s	3.3	6.9	7.3	3.3	10.2	10.5	3.2	7.9	8.0		6.0	12.5
Cycle Q Clear(g_c), s	3.3	6.9	7.3	3.3	10.2	10.5	3.2	7.9	8.0		6.0	12.5
Prop In Lane	1.00		0.58	1.00		0.50	1.00		0.31		1.00	
Lane Grp Cap(c), veh/h	134	252	240	177	326	314	133	713	711		164	706
V/C Ratio(X)	0.54	0.62	0.65	0.42	0.71	0.72	0.53	0.34	0.34		0.79	0.50
Avail Cap(c_a), veh/h	187	636	606	177	615	591	187	713	711		272	706
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Uniform Delay (d), s/veh	37.0	33.5	33.7	35.1	31.8	31.9	37.0	17.1	17.1		36.9	18.7
Incr Delay (d2), s/veh	3.3	2.5	2.9	1.6	2.8	3.2	3.2	1.3	1.3		8.4	2.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	2.9	2.9	1.4	4.2	4.2	1.4	3.0	3.0		2.8	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	40.3	36.0	36.6	36.7	34.6	35.1	40.2	18.4	18.4		45.4	21.2
LnGrp LOS	D	D	D	D	C	D	D	B	B		D	C
Approach Vol, veh/h		384			531			557				834
Approach Delay, s/veh		37.1			35.1			21.1				25.0
Approach LOS		D			D			C				C

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	39.7	14.0	17.6	12.3	39.3	10.5	21.1
Change Period (Y+Rc), s	4.2	6.0	5.7	* 5.7	6.0	* 6	4.2	5.7
Max Green Setting (Gmax), s	12.8	29.3	7.8	* 30	8.8	* 33	8.8	29.0
Max Q Clear Time (g_c+I1), s	8.0	10.0	5.3	9.3	5.2	14.6	5.3	12.5
Green Ext Time (p_c), s	0.1	2.3	0.0	1.5	0.0	3.5	0.0	2.1

Intersection Summary	
HCM 7th Control Delay, s/veh	28.4
HCM 7th LOS	C

Notes

User approved ignoring U-Turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	117
Future Volume (veh/h)	117
Initial Q (Qb), veh	0
Lane Width Adj.	1.00
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1856
Adj Flow Rate, veh/h	130
Peak Hour Factor	0.90
Percent Heavy Veh, %	3
Cap, veh/h	258
Arrive On Green	0.40
Sat Flow, veh/h	645
Grp Volume(v), veh/h	350
Grp Sat Flow(s),veh/h/ln	1737
Q Serve(g_s), s	12.6
Cycle Q Clear(g_c), s	12.6
Prop In Lane	0.37
Lane Grp Cap(c), veh/h	696
V/C Ratio(X)	0.50
Avail Cap(c_a), veh/h	696
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	18.7
Incr Delay (d2), s/veh	2.6
Initial Q Delay(d3), s/veh	0.0
%ile BackOfQ(50%),veh/ln	4.8
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	21.3
LnGrp LOS	C
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Intersection	
Int Delay, s/veh	14.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	68	283	22	14	370	24	15	23	12	33	45	82
Future Vol, veh/h	68	283	22	14	370	24	15	23	12	33	45	82
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	91	377	29	19	493	32	20	31	16	44	60	109

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	525	0	0	407	0	0	1134	1136	395	1124	1135	509
Stage 1	-	-	-	-	-	-	573	573	-	547	547	-
Stage 2	-	-	-	-	-	-	561	563	-	577	588	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1036	-	-	1147	-	-	179	201	652	182	202	562
Stage 1	-	-	-	-	-	-	503	502	-	520	516	-
Stage 2	-	-	-	-	-	-	511	508	-	500	494	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1036	-	-	1147	-	-	86	174	650	129	175	562
Mov Cap-2 Maneuver	-	-	-	-	-	-	86	174	-	129	175	-
Stage 1	-	-	-	-	-	-	446	445	-	508	504	-
Stage 2	-	-	-	-	-	-	354	496	-	402	438	-

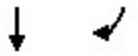
Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	1.61	0.28	45.24	73.85
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	154	323	-	-	61	-	-	243
HCM Lane V/C Ratio	0.434	0.087	-	-	0.016	-	-	0.879
HCM Ctrl Dly (s/v)	45.2	8.8	0	-	8.2	0	-	73.8
HCM Lane LOS	E	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	1.9	0.3	-	-	0	-	-	7.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	78	257	135	75	251	70	12	152	415	89	46	150
Future Volume (vph)	78	257	135	75	251	70	12	152	415	89	46	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.3	5.3	4.2	5.3	5.3		4.2	5.7	5.7		4.2
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00	0.95	1.00		1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00	0.85		1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	1.00		0.95
Satd. Flow (prot)	1752	3505	1568	1752	3505	1568		1752	3505	1568		1752
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	1.00		0.95
Satd. Flow (perm)	1752	3505	1568	1752	3505	1568		1752	3505	1568		1752
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	83	273	144	80	267	74	13	162	441	95	49	160
RTOR Reduction (vph)	0	0	117	0	0	60	0	0	0	71	0	0
Lane Group Flow (vph)	83	273	27	80	267	14	0	175	441	24	0	209
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	Prot
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases			4			8				2		
Actuated Green, G (s)	7.3	14.0	14.0	7.2	13.9	13.9		13.7	18.5	18.5		15.1
Effective Green, g (s)	7.3	14.0	14.0	7.2	13.9	13.9		13.7	18.5	18.5		15.1
Actuated g/C Ratio	0.10	0.19	0.19	0.10	0.19	0.19		0.18	0.25	0.25		0.20
Clearance Time (s)	4.2	5.3	5.3	4.2	5.3	5.3		4.2	5.7	5.7		4.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	172	661	295	170	656	293		323	873	390		356
v/s Ratio Prot	c0.05	c0.08		0.05	0.08			0.10	0.13			c0.12
v/s Ratio Perm			0.02			0.01				0.02		
v/c Ratio	0.48	0.41	0.09	0.47	0.41	0.05		0.54	0.51	0.06		0.59
Uniform Delay, d1	31.7	26.5	24.9	31.7	26.5	24.7		27.4	23.9	21.2		26.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Incremental Delay, d2	2.1	0.4	0.1	2.1	0.4	0.1		1.9	0.5	0.1		2.5
Delay (s)	33.8	26.9	25.0	33.7	26.9	24.8		29.4	24.4	21.3		29.2
Level of Service	C	C	C	C	C	C		C	C	C		C
Approach Delay (s/veh)		27.5			27.9				25.2			
Approach LOS		C			C				C			

Intersection Summary			
HCM 2000 Control Delay (s/veh)	26.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	74.2	Sum of lost time (s)	19.4
Intersection Capacity Utilization	55.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	541	111
Future Volume (vph)	541	111
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	5.7	5.7
Lane Util. Factor	0.95	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3505	1568
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3505	1568
Peak-hour factor, PHF	0.94	0.94
Adj. Flow (vph)	576	118
RTOR Reduction (vph)	0	71
Lane Group Flow (vph)	576	47
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	19.9	19.9
Effective Green, g (s)	19.9	19.9
Actuated g/C Ratio	0.27	0.27
Clearance Time (s)	5.7	5.7
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	940	420
v/s Ratio Prot	c0.16	
v/s Ratio Perm		0.03
v/c Ratio	0.61	0.11
Uniform Delay, d1	23.8	20.5
Progression Factor	1.00	1.00
Incremental Delay, d2	1.2	0.1
Delay (s)	25.0	20.6
Level of Service	C	C
Approach Delay (s/veh)	25.4	
Approach LOS	C	

Intersection Summary

Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	78	52	14	79	30	54	105	7	26	127	30
Future Vol, veh/h	38	78	52	14	79	30	54	105	7	26	127	30
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	44	91	60	16	92	35	63	122	8	30	148	35
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay, s/veh	9.9	9.8	10.4	10.4
HCM LOS	A	A	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	33%	100%	0%	100%	0%	14%
Vol Thru, %	63%	0%	60%	0%	72%	69%
Vol Right, %	4%	0%	40%	0%	28%	16%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	166	38	130	14	109	183
LT Vol	54	38	0	14	0	26
Through Vol	105	0	78	0	79	127
RT Vol	7	0	52	0	30	30
Lane Flow Rate	193	44	151	16	127	213
Geometry Grp	2	5	5	5	5	2
Degree of Util (X)	0.283	0.078	0.234	0.029	0.202	0.304
Departure Headway (Hd)	5.281	6.361	5.571	6.435	5.732	5.147
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	683	564	645	557	626	702
Service Time	3.288	4.089	3.298	4.165	3.462	3.154
HCM Lane V/C Ratio	0.283	0.078	0.234	0.029	0.203	0.303
HCM Control Delay, s/veh	10.4	9.6	10	9.4	9.9	10.4
HCM Lane LOS	B	A	A	A	A	B
HCM 95th-tile Q	1.2	0.3	0.9	0.1	0.8	1.3

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations								
Traffic Vol, veh/h	23	52	9	61	664	5	630	52
Future Vol, veh/h	23	52	9	61	664	5	630	52
Conflicting Peds, #/hr	1	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None
Storage Length	0	115	-	290	-	100	-	-
Veh in Median Storage, #	0	-	-	-	0	-	0	-
Grade, %	0	-	-	-	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87
Heavy Vehicles, %	3	3	3	3	3	3	3	3
Mvmt Flow	26	60	10	70	763	6	724	60

Major/Minor	Minor2		Major1			Major2		
Conflicting Flow All	1309	392	784	784	0	763	-	0
Stage 1	766	-	-	-	-	-	-	-
Stage 2	544	-	-	-	-	-	-	-
Critical Hdwy	6.86	6.96	6.46	4.16	-	6.46	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.53	2.23	-	2.53	-	-
Pot Cap-1 Maneuver	149	604	453	824	-	467	-	-
Stage 1	417	-	-	-	-	-	-	-
Stage 2	543	-	-	-	-	-	-	-
Platoon blocked, %					-		-	-
Mov Cap-1 Maneuver	131	604	729	729	-	467	-	-
Mov Cap-2 Maneuver	131	-	-	-	-	-	-	-
Stage 1	371	-	-	-	-	-	-	-
Stage 2	536	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	20.08	1.01	0.09
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBU	SBT	SBR
Capacity (veh/h)	729	-	131	604	467	-	-
HCM Lane V/C Ratio	0.11	-	0.202	0.099	0.012	-	-
HCM Ctrl Dly (s/v)	10.6	-	39.2	11.6	12.8	-	-
HCM Lane LOS	B	-	E	B	B	-	-
HCM 95th %tile Q(veh)	0.4	-	0.7	0.3	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	15	719	24	0	689
Future Vol, veh/h	0	15	719	24	0	689
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	17	817	27	0	783

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	422	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	577	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	577	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	11.43	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	577	-
HCM Lane V/C Ratio	-	-	0.03	-
HCM Ctrl Dly (s/v)	-	-	11.4	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.1	-

Intersection	
Int Delay, s/veh	27.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Vol, veh/h	32	0	6	62	0	79	1	22	615	87	18	156	476	39
Future Vol, veh/h	32	0	6	62	0	79	1	22	615	87	18	156	476	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	-	-	80	-	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	37	0	7	71	0	91	1	25	707	100	21	179	547	45

Major/Minor	Minor2			Minor1			Major1				Major2			
Conflicting Flow All	1376	1829	296	1483	1802	403	592	592	0	0	807	807	0	0
Stage 1	970	970	-	810	810	-	-	-	-	-	-	-	-	-
Stage 2	406	860	-	674	992	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.56	6.56	6.96	6.46	4.16	-	-	6.46	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.53	4.03	3.33	2.53	2.23	-	-	2.53	2.23	-	-
Pot Cap-1 Maneuver	103	75	697	86	78	594	601	973	-	-	438	807	-	-
Stage 1	270	328	-	338	389	-	-	-	-	-	-	-	-	-
Stage 2	590	369	-	408	320	-	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-			-	-
Mov Cap-1 Maneuver	61	53	697	~ 60	55	594	947	947	-	-	720	720	-	-
Mov Cap-2 Maneuver	61	53	-	~ 60	55	-	-	-	-	-	-	-	-	-
Stage 1	195	237	-	328	378	-	-	-	-	-	-	-	-	-
Stage 2	486	358	-	292	231	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	113.67	268.54	0.28	3.01
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	947	-	-	72	120	720	-	-
HCM Lane V/C Ratio	0.028	-	-	0.608	1.347	0.278	-	-
HCM Ctrl Dly (s/v)	8.9	-	-	113.7	268.5	11.9	-	-
HCM Lane LOS	A	-	-	F	F	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	2.7	10.8	1.1	-	-

Notes	
~: Volume exceeds capacity	$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	97	146	82	0	0	59
Future Vol, veh/h	97	146	82	0	0	59
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	110	166	93	0	0	67

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	93	0	-	0	480	93
Stage 1	-	-	-	-	93	-
Stage 2	-	-	-	-	386	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1495	-	-	-	543	961
Stage 1	-	-	-	-	928	-
Stage 2	-	-	-	-	685	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1495	-	-	-	499	961
Mov Cap-2 Maneuver	-	-	-	-	499	-
Stage 1	-	-	-	-	853	-
Stage 2	-	-	-	-	685	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	3.03	0	9.03
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	719	-	-	-	961
HCM Lane V/C Ratio	0.074	-	-	-	0.07
HCM Ctrl Dly (s/v)	7.6	0	-	-	9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	30	116	64	0	0	18
Future Vol, veh/h	30	116	64	0	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	34	132	73	0	0	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	73	0	-	0	273	73
Stage 1	-	-	-	-	73	-
Stage 2	-	-	-	-	200	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1521	-	-	-	715	987
Stage 1	-	-	-	-	948	-
Stage 2	-	-	-	-	831	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1521	-	-	-	697	987
Mov Cap-2 Maneuver	-	-	-	-	697	-
Stage 1	-	-	-	-	925	-
Stage 2	-	-	-	-	831	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	1.52	0	8.73
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	370	-	-	-	987
HCM Lane V/C Ratio	0.022	-	-	-	0.021
HCM Ctrl Dly (s/v)	7.4	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	59	0	57	0	0	0	28	0	0	0	0	36
Future Vol, veh/h	59	0	57	0	0	0	28	0	0	0	0	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	67	0	65	0	0	0	32	0	0	0	0	41

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1	0	0	65	0	0	168	168	32	135	200	1
Stage 1	-	-	-	-	-	-	166	166	-	1	1	-
Stage 2	-	-	-	-	-	-	1	1	-	134	199	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1615	-	-	1531	-	-	794	723	1038	834	694	1080
Stage 1	-	-	-	-	-	-	833	759	-	1019	893	-
Stage 2	-	-	-	-	-	-	1019	893	-	867	735	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1615	-	-	1531	-	-	731	692	1038	798	664	1080
Mov Cap-2 Maneuver	-	-	-	-	-	-	731	692	-	798	664	-
Stage 1	-	-	-	-	-	-	797	726	-	1019	893	-
Stage 2	-	-	-	-	-	-	981	893	-	829	703	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	3.73	0	10.15	8.46
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	731	763	-	-	1531	-	-	1080
HCM Lane V/C Ratio	0.044	0.042	-	-	-	-	-	0.038
HCM Ctrl Dly (s/v)	10.1	7.3	0	-	0	-	-	8.5
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	21	701	23	0	545
Future Vol, veh/h	0	21	701	23	0	545
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	24	797	26	0	619

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	411	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	587	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	587	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	11.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	587	-
HCM Lane V/C Ratio	-	-	0.041	-
HCM Ctrl Dly (s/v)	-	-	11.4	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.1	-

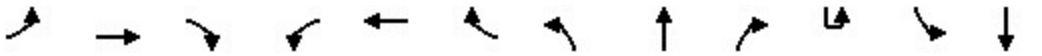
Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	77	457	404	33	16	73
Future Vol, veh/h	77	457	404	33	16	73
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	165	-	-	0	200	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	82	486	430	35	17	78

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	465	0	-	0	1080	430
Stage 1	-	-	-	-	430	-
Stage 2	-	-	-	-	650	-
Critical Hdwy	4.13	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.227	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1091	-	-	-	240	623
Stage 1	-	-	-	-	654	-
Stage 2	-	-	-	-	518	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1091	-	-	-	222	623
Mov Cap-2 Maneuver	-	-	-	-	222	-
Stage 1	-	-	-	-	605	-
Stage 2	-	-	-	-	518	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	1.24	0	13.56
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1091	-	-	-	222	623
HCM Lane V/C Ratio	0.075	-	-	-	0.077	0.125
HCM Ctrl Dly (s/v)	8.6	-	-	-	22.5	11.6
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2	0.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	163	271	52	53	278	104	60	451	42	1	103	326
Future Volume (veh/h)	163	271	52	53	278	104	60	451	42	1	103	326
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0		0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Work Zone On Approach		No			No			No				No
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856		1856	1856
Adj Flow Rate, veh/h	173	288	55	56	296	111	64	480	45		110	347
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		0.94	0.94
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3		3	3
Cap, veh/h	210	411	77	218	407	149	129	1265	118		154	975
Arrive On Green	0.12	0.14	0.14	0.12	0.16	0.16	0.07	0.39	0.39		0.09	0.38
Sat Flow, veh/h	1767	2960	558	1767	2525	927	1767	3259	304		1767	2563
Grp Volume(v), veh/h	173	170	173	56	205	202	64	259	266		110	237
Grp Sat Flow(s),veh/h/ln	1767	1763	1755	1767	1763	1689	1767	1763	1801		1767	1763
Q Serve(g_s), s	7.9	7.6	7.7	2.4	9.1	9.4	2.9	8.7	8.7		5.0	7.9
Cycle Q Clear(g_c), s	7.9	7.6	7.7	2.4	9.1	9.4	2.9	8.7	8.7		5.0	7.9
Prop In Lane	1.00		0.32	1.00		0.55	1.00		0.17		1.00	
Lane Grp Cap(c), veh/h	210	245	244	218	284	272	129	684	699		154	671
V/C Ratio(X)	0.82	0.69	0.71	0.26	0.72	0.74	0.50	0.38	0.38		0.71	0.35
Avail Cap(c_a), veh/h	275	686	683	218	600	575	168	684	699		189	671
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Uniform Delay (d), s/veh	35.4	33.8	33.8	32.6	32.7	32.9	36.7	18.0	18.1		36.5	18.2
Incr Delay (d2), s/veh	14.1	3.5	3.8	0.6	3.4	4.0	2.9	1.6	1.6		9.4	1.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	3.2	3.3	1.0	3.8	3.8	1.2	3.3	3.4		2.4	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	49.5	37.3	37.7	33.3	36.2	36.8	39.6	19.6	19.6		45.9	19.7
LnGrp LOS	D	D	D	C	D	D	D	B	B		D	B
Approach Vol, veh/h		516			463			589				580
Approach Delay, s/veh		41.5			36.1			21.8				24.7
Approach LOS		D			D			C				C

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.4	37.9	15.8	17.1	12.0	37.3	14.0	19.0
Change Period (Y+Rc), s	4.2	6.0	5.7	* 5.7	6.0	* 6	4.2	5.7
Max Green Setting (Gmax), s	8.8	30.3	8.8	* 32	7.8	* 31	12.8	28.0
Max Q Clear Time (g_c+I1), s	7.0	10.7	4.4	9.7	4.9	10.1	9.9	11.4
Green Ext Time (p_c), s	0.0	2.5	0.0	1.7	0.0	2.3	0.1	1.9

Intersection Summary	
HCM 7th Control Delay, s/veh	30.4
HCM 7th LOS	C

Notes

User approved ignoring U-Turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	116
Future Volume (veh/h)	116
Initial Q (Qb), veh	0
Lane Width Adj.	1.00
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1856
Adj Flow Rate, veh/h	123
Peak Hour Factor	0.94
Percent Heavy Veh, %	3
Cap, veh/h	340
Arrive On Green	0.38
Sat Flow, veh/h	894
Grp Volume(v), veh/h	233
Grp Sat Flow(s),veh/h/ln	1694
Q Serve(g_s), s	8.1
Cycle Q Clear(g_c), s	8.1
Prop In Lane	0.53
Lane Grp Cap(c), veh/h	645
V/C Ratio(X)	0.36
Avail Cap(c_a), veh/h	645
HCM Platoon Ratio	1.00
Upstream Filter(I)	1.00
Uniform Delay (d), s/veh	18.3
Incr Delay (d2), s/veh	1.6
Initial Q Delay(d3), s/veh	0.0
%ile BackOfQ(50%),veh/ln	3.0
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	19.9
LnGrp LOS	B
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Intersection	
Int Delay, s/veh	6.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	331	24	21	371	32	15	72	29	18	46	42
Future Vol, veh/h	20	331	24	21	371	32	15	72	29	18	46	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	22	368	27	23	412	36	17	80	32	20	51	47

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	448	0	0	394	0	0	910	920	381	929	916	430
Stage 1	-	-	-	-	-	-	426	426	-	477	477	-
Stage 2	-	-	-	-	-	-	484	494	-	452	439	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1107	-	-	1159	-	-	254	270	664	247	271	623
Stage 1	-	-	-	-	-	-	605	584	-	567	555	-
Stage 2	-	-	-	-	-	-	562	545	-	585	576	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1107	-	-	1159	-	-	181	256	664	156	257	623
Mov Cap-2 Maneuver	-	-	-	-	-	-	181	256	-	156	257	-
Stage 1	-	-	-	-	-	-	589	569	-	552	540	-
Stage 2	-	-	-	-	-	-	458	530	-	466	562	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.44	0.4	27.77	25.31
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	284	95	-	-	88	-	-	293
HCM Lane V/C Ratio	0.454	0.02	-	-	0.02	-	-	0.402
HCM Ctrl Dly (s/v)	27.8	8.3	0	-	8.2	0	-	25.3
HCM Lane LOS	D	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	2.2	0.1	-	-	0.1	-	-	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	49	0	23	79	0	131	1	8	493	28	7	49
Future Volume (vph)	49	0	23	79	0	131	1	8	493	28	7	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2		4.2	4.2			4.2	6.0	6.0		4.2
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	0.95	1.00		1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00		1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00		1.00
Frt	1.00	0.85		1.00	0.85			1.00	1.00	0.85		1.00
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (prot)	1736	1553		1736	1553			1736	3471	1553		1736
Flt Permitted	0.95	1.00		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (perm)	1736	1553		1736	1553			1736	3471	1553		1736
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	56	0	26	90	0	149	1	9	560	32	8	56
RTOR Reduction (vph)	0	23	0	0	124	0	0	0	0	20	0	0
Lane Group Flow (vph)	56	3	0	90	25	0	0	10	560	12	0	64
Confl. Peds. (#/hr)								1				
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Prot	NA		Prot	NA		Prot	Prot	NA	Perm	Prot	Prot
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases										2		
Actuated Green, G (s)	3.8	7.8		6.0	10.0			1.0	22.9	22.9		3.8
Effective Green, g (s)	3.8	7.8		6.0	10.0			1.0	22.9	22.9		3.8
Actuated g/C Ratio	0.06	0.13		0.10	0.17			0.02	0.39	0.39		0.06
Clearance Time (s)	4.2	4.2		4.2	4.2			4.2	6.0	6.0		4.2
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	111	204		176	262			29	1344	601		111
v/s Ratio Prot	0.03	0.00		c0.05	c0.02			0.01	0.16			c0.04
v/s Ratio Perm										0.01		
v/c Ratio	0.50	0.02		0.51	0.10			0.34	0.42	0.02		0.58
Uniform Delay, d1	26.7	22.3		25.2	20.7			28.7	13.2	11.2		26.9
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00		1.00
Incremental Delay, d2	3.6	0.0		2.5	0.2			7.0	0.2	0.0		7.1
Delay (s)	30.3	22.3		27.7	20.9			35.7	13.4	11.2		33.9
Level of Service	C	C		C	C			D	B	B		C
Approach Delay (s/veh)		27.8			23.4				13.7			
Approach LOS		C			C				B			

Intersection Summary			
HCM 2000 Control Delay (s/veh)	15.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	59.1	Sum of lost time (s)	18.6
Intersection Capacity Utilization	55.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	653	22
Future Volume (vph)	653	22
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	0.95	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	1.00	
Flt Protected	1.00	
Satd. Flow (prot)	3452	
Flt Permitted	1.00	
Satd. Flow (perm)	3452	
Peak-hour factor, PHF	0.88	0.88
Adj. Flow (vph)	742	25
RTOR Reduction (vph)	2	0
Lane Group Flow (vph)	765	0
Confl. Peds. (#/hr)		1
Heavy Vehicles (%)	4%	4%
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	25.7	
Effective Green, g (s)	25.7	
Actuated g/C Ratio	0.43	
Clearance Time (s)	6.0	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	1501	
v/s Ratio Prot	c0.22	
v/s Ratio Perm		
v/c Ratio	0.51	
Uniform Delay, d1	12.1	
Progression Factor	1.00	
Incremental Delay, d2	0.3	
Delay (s)	12.4	
Level of Service	B	
Approach Delay (s/veh)	14.1	
Approach LOS	B	

Intersection Summary

Intersection	
Int Delay, s/veh	7.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	68	283	22	14	370	24	15	23	12	33	45	82
Future Vol, veh/h	68	283	22	14	370	24	15	23	12	33	45	82
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	250	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	91	377	29	19	493	32	20	31	16	44	60	109

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	525	0	0	407	0	0	1134	1136	395	1124	1135	509
Stage 1	-	-	-	-	-	-	573	573	-	547	547	-
Stage 2	-	-	-	-	-	-	561	563	-	577	588	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1036	-	-	1147	-	-	179	201	652	182	202	562
Stage 1	-	-	-	-	-	-	503	502	-	520	516	-
Stage 2	-	-	-	-	-	-	511	508	-	500	494	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1036	-	-	1147	-	-	86	174	650	129	175	562
Mov Cap-2 Maneuver	-	-	-	-	-	-	86	174	-	129	175	-
Stage 1	-	-	-	-	-	-	446	445	-	508	504	-
Stage 2	-	-	-	-	-	-	354	496	-	402	438	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	1.61	0.28	34.8	32.65
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	86	233	323	-	-	61	-	-	129	315
HCM Lane V/C Ratio	0.233	0.201	0.087	-	-	0.016	-	-	0.34	0.538
HCM Ctrl Dly (s/v)	59.2	24.3	8.8	0	-	8.2	0	-	46.6	29
HCM Lane LOS	F	C	A	A	-	A	A	-	E	D
HCM 95th %tile Q(veh)	0.8	0.7	0.3	-	-	0	-	-	1.4	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	32	0	6	62	0	79	1	22	615	87	18	156
Future Volume (vph)	32	0	6	62	0	79	1	22	615	87	18	156
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2		4.2	4.2			4.2	6.0	6.0		4.2
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	0.95	1.00		1.00
Frt	1.00	0.85		1.00	0.85			1.00	1.00	0.85		1.00
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (prot)	1752	1568		1752	1568			1752	3505	1568		1752
Flt Permitted	0.95	1.00		0.95	1.00			0.95	1.00	1.00		0.95
Satd. Flow (perm)	1752	1568		1752	1568			1752	3505	1568		1752
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	37	0	7	71	0	91	1	25	707	100	21	179
RTOR Reduction (vph)	0	6	0	0	77	0	0	0	0	62	0	0
Lane Group Flow (vph)	37	1	0	71	14	0	0	26	707	38	0	200
Turn Type	Prot	NA		Prot	NA		Prot	Prot	NA	Perm	Prot	Prot
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases										2		
Actuated Green, G (s)	2.4	5.9		6.4	9.9			1.0	24.3	24.3		8.4
Effective Green, g (s)	2.4	5.9		6.4	9.9			1.0	24.3	24.3		8.4
Actuated g/C Ratio	0.04	0.09		0.10	0.16			0.02	0.38	0.38		0.13
Clearance Time (s)	4.2	4.2		4.2	4.2			4.2	6.0	6.0		4.2
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	66	145		176	244			27	1339	599		231
v/s Ratio Prot	0.02	0.00		c0.04	c0.01			0.01	c0.20			c0.11
v/s Ratio Perm										0.02		
v/c Ratio	0.56	0.00		0.40	0.06			0.96	0.53	0.06		0.87
Uniform Delay, d1	30.1	26.2		26.8	22.9			31.3	15.2	12.4		27.0
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00		1.00
Incremental Delay, d2	10.4	0.0		1.5	0.1			156.3	0.4	0.0		27.0
Delay (s)	40.5	26.2		28.3	23.0			187.6	15.6	12.5		54.0
Level of Service	D	C		C	C			F	B	B		D
Approach Delay (s/veh)		38.2			25.3				20.6			
Approach LOS		D			C				C			

Intersection Summary			
HCM 2000 Control Delay (s/veh)	21.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	63.6	Sum of lost time (s)	18.6
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	476	39
Future Volume (vph)	476	39
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.0	
Lane Util. Factor	0.95	
Frt	0.99	
Flt Protected	1.00	
Satd. Flow (prot)	3465	
Flt Permitted	1.00	
Satd. Flow (perm)	3465	
Peak-hour factor, PHF	0.87	0.87
Adj. Flow (vph)	547	45
RTOR Reduction (vph)	5	0
Lane Group Flow (vph)	587	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	31.7	
Effective Green, g (s)	31.7	
Actuated g/C Ratio	0.50	
Clearance Time (s)	6.0	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	1727	
v/s Ratio Prot	0.17	
v/s Ratio Perm		
v/c Ratio	0.34	
Uniform Delay, d1	9.6	
Progression Factor	1.00	
Incremental Delay, d2	0.1	
Delay (s)	9.8	
Level of Service	A	
Approach Delay (s/veh)	20.9	
Approach LOS	C	

Intersection Summary

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	331	24	21	371	32	15	72	29	18	46	42
Future Vol, veh/h	20	331	24	21	371	32	15	72	29	18	46	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	250	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	22	368	27	23	412	36	17	80	32	20	51	47

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	448	0	0	394	0	0	910	920	381	929	916	430
Stage 1	-	-	-	-	-	-	426	426	-	477	477	-
Stage 2	-	-	-	-	-	-	484	494	-	452	439	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.13	6.53	6.23	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.227	-	-	3.527	4.027	3.327	3.527	4.027	3.327
Pot Cap-1 Maneuver	1107	-	-	1159	-	-	254	270	664	247	271	623
Stage 1	-	-	-	-	-	-	605	584	-	567	555	-
Stage 2	-	-	-	-	-	-	562	545	-	585	576	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1107	-	-	1159	-	-	181	256	664	156	257	623
Mov Cap-2 Maneuver	-	-	-	-	-	-	181	256	-	156	257	-
Stage 1	-	-	-	-	-	-	589	569	-	552	540	-
Stage 2	-	-	-	-	-	-	458	530	-	466	562	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.44	0.4	23.52	20.98
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	181	311	95	-	-	88	-	-	156	357
HCM Lane V/C Ratio	0.092	0.361	0.02	-	-	0.02	-	-	0.129	0.274
HCM Ctrl Dly (s/v)	26.9	23	8.3	0	-	8.2	0	-	31.5	18.8
HCM Lane LOS	D	C	A	A	-	A	A	-	D	C
HCM 95th %tile Q(veh)	0.3	1.6	0.1	-	-	0.1	-	-	0.4	1.1

Intersection: 1: Lovers Lane & Walnut Avenue

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	R	UL	T	T	R
Maximum Queue (ft)	159	126	110	80	112	119	108	64	242	157	150	56
Average Queue (ft)	64	60	51	32	56	74	52	19	131	69	83	19
95th Queue (ft)	124	102	89	64	106	113	93	45	215	124	138	45
Link Distance (ft)		793	793			2525	2525			2492	2492	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300			180	300			270	180			100
Storage Blk Time (%)									4		4	
Queuing Penalty (veh)									9		3	

Intersection: 1: Lovers Lane & Walnut Avenue

Movement	SB	SB	SB	SB
Directions Served	UL	T	T	R
Maximum Queue (ft)	171	176	161	192
Average Queue (ft)	68	103	81	31
95th Queue (ft)	131	155	138	85
Link Distance (ft)		2524	2524	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	220			100
Storage Blk Time (%)			4	
Queuing Penalty (veh)			6	

Intersection: 2: Pinkham Street & K Avenue

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	47	62	25	81	101	92
Average Queue (ft)	22	30	3	37	52	44
95th Queue (ft)	39	51	16	67	84	71
Link Distance (ft)		1330		2545	930	2251
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	200		150			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: Lovers Lane & K Avenue

Movement	EB	EB	NB	SB	SB	SB
Directions Served	L	R	UL	U	T	TR
Maximum Queue (ft)	72	79	89	25	19	31
Average Queue (ft)	19	31	34	2	1	1
95th Queue (ft)	50	55	70	14	6	10
Link Distance (ft)	2545				2492	2492
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		115	290	100		
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 4: Lovers Lane & Driveway A

Movement	WB	NB	NB
Directions Served	R	T	TR
Maximum Queue (ft)	67	35	17
Average Queue (ft)	22	1	1
95th Queue (ft)	53	12	6
Link Distance (ft)	200	591	591
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Lovers Lane & Sunnyside Avenue

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	UL	T	T	R	UL	T	TR
Maximum Queue (ft)	51	54	106	84	50	147	119	37	73	155	175
Average Queue (ft)	35	16	45	34	8	63	52	6	32	60	53
95th Queue (ft)	58	48	88	61	30	128	105	24	62	125	123
Link Distance (ft)		670		317		470	470			591	591
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	100		250		80			100	300		
Storage Blk Time (%)						4	1				
Queuing Penalty (veh)						0	0				

Intersection: 6: Sunnyside Avenue & Driveway B

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	31	67
Average Queue (ft)	5	34
95th Queue (ft)	24	59
Link Distance (ft)	317	216
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Sunnyside Avenue & Driveway C

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	31	50
Average Queue (ft)	3	23
95th Queue (ft)	16	46
Link Distance (ft)	344	222
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Driveway D & Sunnyside Avenue

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	54	53
Average Queue (ft)	23	26
95th Queue (ft)	48	53
Link Distance (ft)	222	222
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Lovers Lane & Driveway E

Movement	WB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	18
95th Queue (ft)	42
Link Distance (ft)	200
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: Caldwell Avenue & Pinkham Street

Movement	EB	SB	SB
Directions Served	L	L	R
Maximum Queue (ft)	53	52	69
Average Queue (ft)	14	24	27
95th Queue (ft)	41	45	51
Link Distance (ft)			1815
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	165	200	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Lovers Lane & Caldwell Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	TR	UL	T	TR
Maximum Queue (ft)	116	174	140	113	142	175	118	160	198	249	275	256
Average Queue (ft)	46	83	59	48	93	90	45	82	71	78	166	125
95th Queue (ft)	84	147	110	88	144	154	91	144	132	148	252	218
Link Distance (ft)		1215	1215		1121	1121		765	765		750	750
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	230			90			150			125		
Storage Blk Time (%)				2	11			0		1	18	
Queuing Penalty (veh)				3	7			0		2	21	

Intersection: 12: Road 148 & Caldwell Avenue

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	90	52	52	53	56	54
Average Queue (ft)	18	4	13	21	21	34
95th Queue (ft)	56	23	40	43	44	52
Link Distance (ft)	3994	5284		2538		2586
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			250		250	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 21: Bend

Movement	SB	SB
Directions Served	T	
Maximum Queue (ft)	47	53
Average Queue (ft)	2	3
95th Queue (ft)	16	21
Link Distance (ft)	765	765
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 51

Intersection: 1: Lovers Lane & Walnut Avenue

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	R	UL	T	T	R
Maximum Queue (ft)	114	126	128	85	88	89	65	42	195	172	170	87
Average Queue (ft)	50	68	50	34	49	48	23	14	101	90	97	26
95th Queue (ft)	93	107	101	67	84	81	47	34	162	156	163	55
Link Distance (ft)		788	788			2525	2525			2492	2492	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300			180	300			270	180			100
Storage Blk Time (%)									1	0	11	0
Queuing Penalty (veh)									2	0	9	0

Intersection: 1: Lovers Lane & Walnut Avenue

Movement	SB	SB	SB	SB
Directions Served	UL	T	T	R
Maximum Queue (ft)	264	268	281	200
Average Queue (ft)	127	126	105	33
95th Queue (ft)	219	203	199	89
Link Distance (ft)		2524	2524	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	220			100
Storage Blk Time (%)	2	1	6	
Queuing Penalty (veh)	4	1	7	

Intersection: 2: Pinkham Street & K Avenue

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	45	78	25	57	97	88
Average Queue (ft)	19	26	8	25	45	38
95th Queue (ft)	37	49	26	49	77	64
Link Distance (ft)		1330		2545	930	2251
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	200		150			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: Lovers Lane & K Avenue

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	UL	T	U	TR
Maximum Queue (ft)	70	53	72	30	23	22
Average Queue (ft)	21	21	26	1	2	1
95th Queue (ft)	51	44	55	10	11	7
Link Distance (ft)	2545			590		2492
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		115	290		100	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 4: Lovers Lane & Driveway A

Movement	WB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	9
95th Queue (ft)	32
Link Distance (ft)	200
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: Lovers Lane & Sunnyside Avenue

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	UL	T	T	R	UL	T	TR
Maximum Queue (ft)	87	31	67	46	50	200	199	49	203	225	149
Average Queue (ft)	26	8	33	23	14	101	99	21	118	74	53
95th Queue (ft)	62	30	62	46	39	183	179	44	200	165	117
Link Distance (ft)		670		317		470	470			591	591
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	100		250		80			100	300		
Storage Blk Time (%)	0					12	9				
Queuing Penalty (veh)	0					3	8				

Intersection: 6: Sunnyside Avenue & Driveway B

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	70	55
Average Queue (ft)	13	28
95th Queue (ft)	49	48
Link Distance (ft)	317	216
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Sunnyside Avenue & Driveway C

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	31	78
Average Queue (ft)	2	14
95th Queue (ft)	14	50
Link Distance (ft)	344	222
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Driveway D & Sunnyside Avenue

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	79	53
Average Queue (ft)	22	26
95th Queue (ft)	53	46
Link Distance (ft)	222	222
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Lovers Lane & Driveway E

Movement	WB
Directions Served	R
Maximum Queue (ft)	31
Average Queue (ft)	16
95th Queue (ft)	41
Link Distance (ft)	200
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: Caldwell Avenue & Pinkham Street

Movement	EB	SB	SB
Directions Served	L	L	R
Maximum Queue (ft)	72	28	85
Average Queue (ft)	21	9	25
95th Queue (ft)	57	29	54
Link Distance (ft)			1815
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	165	200	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Lovers Lane & Caldwell Avenue

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	TR	UL	T	TR
Maximum Queue (ft)	200	139	108	95	169	161	118	168	161	155	224	237
Average Queue (ft)	112	89	50	36	76	86	55	101	101	76	86	60
95th Queue (ft)	180	136	99	76	127	145	100	147	153	135	163	142
Link Distance (ft)		1215	1215		1121	1121		765	765		750	750
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	230			90			150			125		
Storage Blk Time (%)				0	5			1		2	5	
Queuing Penalty (veh)				0	3			0		4	5	

Intersection: 12: Road 148 & Caldwell Avenue

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	73	53	30	54	53	77
Average Queue (ft)	11	6	7	34	10	31
95th Queue (ft)	44	31	25	53	33	57
Link Distance (ft)	3994	5284		2538		2586
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			250		250	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Network Summary

Network wide Queuing Penalty: 47

Appendix M: Traffic Signal Warrants

California MUTCD 2014 Edition

(FHWA'S MUTCD 2009 Edition, as amended for use in California)

Signal Warrant Analysis

Existing Traffic Conditions

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

006	Fresno	N/A	N/A
DIST	CO	RTE	KPM

COUNT DATE 09/09/25

CALC DCC DATE 11/05/25

CHK DC DATE 11/05/25

Major St: **Pinkham Street**

Minor St: **K Avenue**

Critical Approach Speed 40 MPH

Critical speed of major street traffic > 64 km/h (40 mph)..... ☑

In built up area of isolated community of < 10,000 population ..... ☐

or } RURAL (R)

☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

SATISFIED YES ☐ NO ☑

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume

100% SATISFIED YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)												
	U	R	U	R									
APPROACH LANES	1		2 or More		7:00 AM	8:00 AM	12:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	Hour
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	321	216	185	302	240	254	277	182	
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	154	111	91	123	134	158	161	103	

Condition B - Interruption of Continuous Traffic

100% SATISFIED YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)												
	U	R	U	R									
APPROACH LANES	1		2 or More		7:00 AM	8:00 AM	12:00 PM	2:00 PM	3:00 PM	12:00 AM	5:00 PM	6:00 PM	Hour
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	321	216	185	302	240	254	277	182	
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	154	111	91	123	134	158	161	103	

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Combination of Conditions A & B

SATISFIED YES ☐ NO ☑

REQUIREMENT	WARRANT		FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☑
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

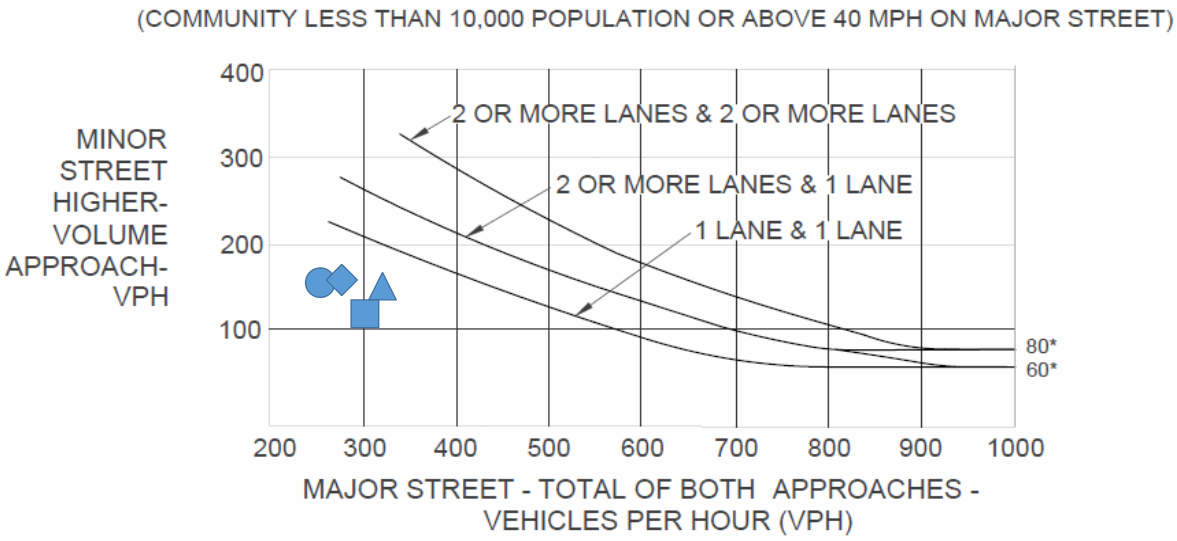
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570 - 8991

Warrant 2: Four-Hour Vehicular Volume (Rural)

Existing Traffic Conditions

2. Pinkham Street / K Avenue



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor street approach with one lane.

	1 Lane & 1 Lane	2 or More Lanes & 1 Lane	2 or More Lanes & 2 or More Lanes	▲ 7:00 AM Volume	■ 2:00 PM Volume	● 4:00 PM Volume	◆ 5:00 PM Volume
Major Street (Total of Both Approaches)	☑	☐	☐	321	302	254	277
Minor Street (Higher Volume Approach)				154	123	158	161

Satisfied: ☐ **Yes** ☑ **No**

Calculated By: DCC Date: 11/05/25

Checked By: DC Date: 11/05/25

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

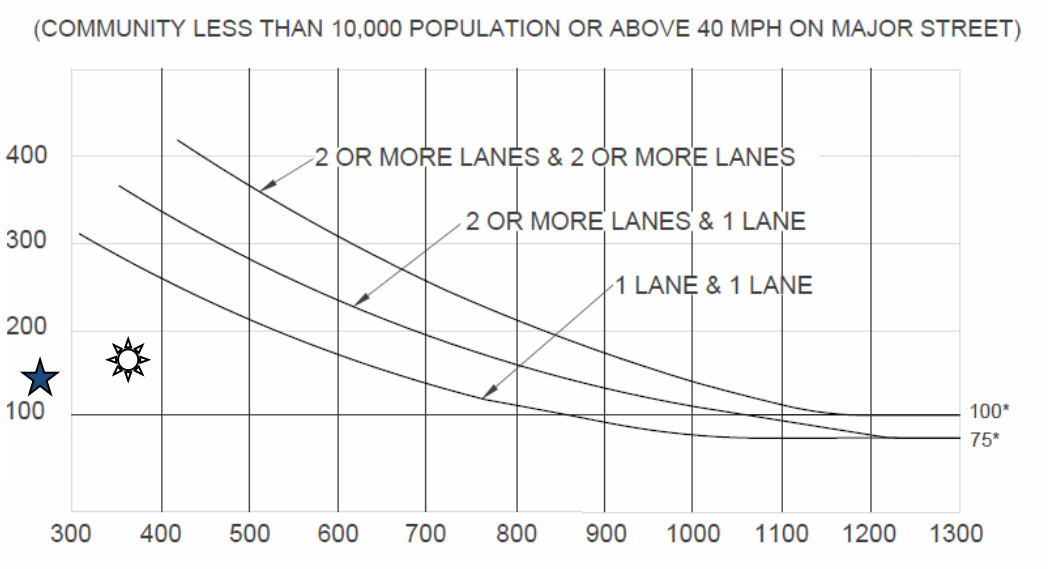
www.JLBTraffic.com
info@JLBTraffic.com

516 W Shaw Ave., Ste 103
Fresno, CA 93704
(559) 570-8991

Warrant 3: Peak Hour (Rural)

Existing Traffic Conditions
2. Pinkham Street / K Avenue
AM (PM) Peak Hour

K Avenue Highest Approach Volume = 177 (161) VPH



Pinkham Street Total of Both Approaches =

378 (277) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570-8991

California MUTCD 2014 Edition

(FHWA'S MUTCD 2009 Edition, as amended for use in California)

Signal Warrant Analysis

Existing Traffic Conditions

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

006	Fresno	N/A	N/A
DIST	CO	RTE	KPM

COUNT DATE 09/09/25

CALC DCC DATE 11/05/25

CHK DC DATE 11/07/25

Major St: **Lovers Lane**

Minor St: **K Avenue**

Critical Approach Speed 40 MPH

Critical speed of major street traffic > 64 km/h (40 mph)..... ☑

In built up area of isolated community of < 10,000 population ..... ☐

or } RURAL (R)

☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

SATISFIED YES ☐ NO ☑

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume

100% SATISFIED YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	Hour
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	885	762	704	837	927	945	945	623	
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	93	63	49	67	89	95	104	79	

Condition B - Interruption of Continuous Traffic

100% SATISFIED YES ☐ NO ☑

80 % SATISFIED YES ☑ NO ☐

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	Hour
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	885	762	704	837	927	945	945	623	
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	93	63	49	67	89	95	104	79	

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Combination of Conditions A & B **SATISFIED** YES ☐ NO ☑

REQUIREMENT	WARRANT		FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☑
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

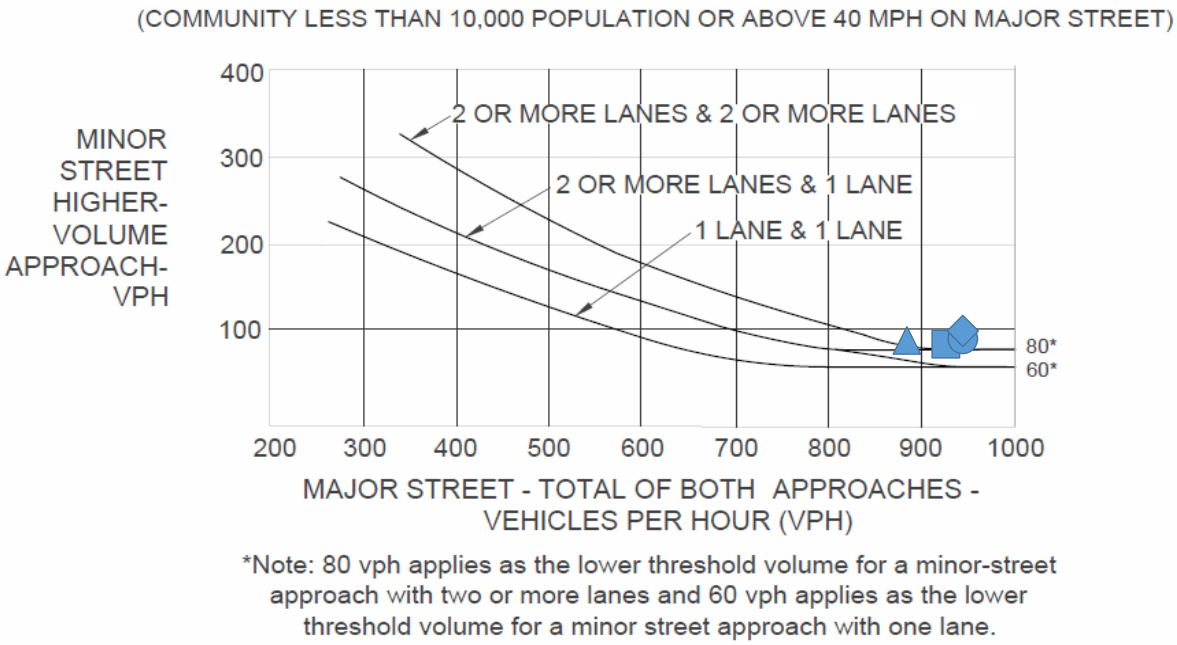
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570 - 8991

Warrant 2: Four-Hour Vehicular Volume (Rural)

Existing Traffic Conditions

3. Lovers Lane / K Avenue



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor street approach with one lane.

	1 Lane & 1 Lane	2 or More Lanes & 1 Lane	2 or More Lanes & 2 or More Lanes	7:00 AM Volume	3:00 PM Volume	4:00 PM Volume	5:00 PM Volume
Major Street (Total of Both Approaches)	☐	☑	☐	885	927	945	945
Minor Street (Higher Volume Approach)				93	89	95	104

Satisfied: ☑ **Yes** ☐ **No**

Calculated By: DCC Date: 11/05/25

Checked By: DC Date: 11/07/25

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

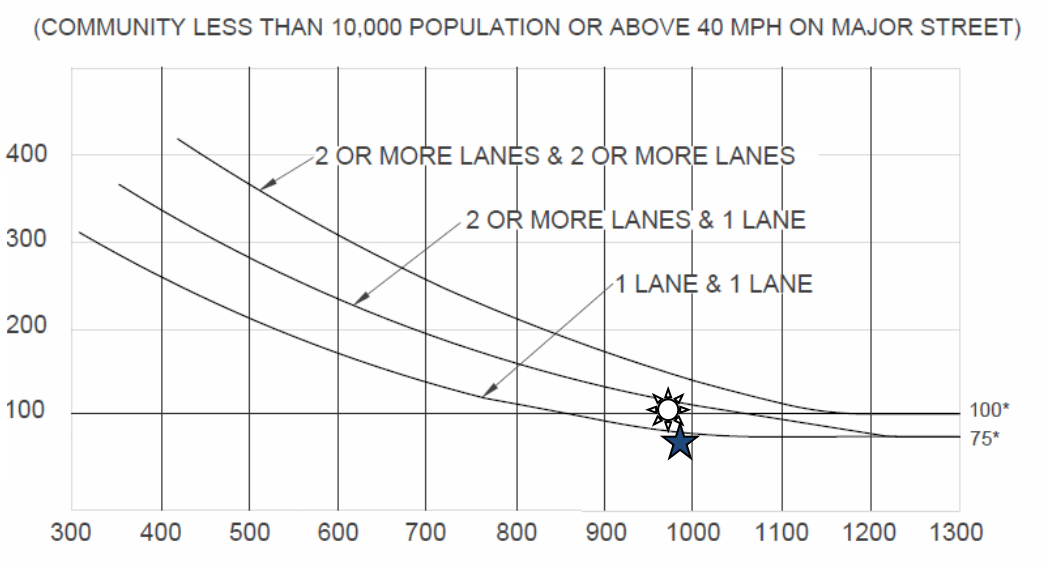
www.JLBTraffic.com
info@JLBTraffic.com

516 W Shaw Ave., Ste 103
Fresno, CA 93704
(559) 570-8991

Warrant 3: Peak Hour (Rural)

Existing Traffic Conditions
3. Lovers Lane / K Avenue
AM (PM) Peak Hour

K Avenue Highest Approach Volume = 104 (71) VPH



Lovers Lane Total of Both Approaches =

983 (993) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103

Fresno, CA 93704

(559) 570-8991

California MUTCD 2014 Edition

(FHWA'S MUTCD 2009 Edition, as amended for use in California)

Signal Warrant Analysis

Existing Traffic Conditions

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

006	Fresno	N/A	N/A
DIST	CO	RTE	KPM

COUNT DATE 09/09/25

CALC DCC DATE 11/05/25

CHK DC DATE 11/07/25

Major St: **Lovers Lane**

Minor St: **Sunnyside Avenue**

Critical Approach Speed 40 MPH

☑ Critical speed of major street traffic > 64 km/h (40 mph)..... or RURAL (R)

☐ In built up area of isolated community of < 10,000 population ..... ☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

SATISFIED YES ☐ NO ☑

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume **100% SATISFIED** YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	Hour
Both Approaches Major Street	500	350	600	420	874	738	615	679	822	910	931	916	
	(400)	(280)	(480)	(336)	874	738	615	679	822	910	931	916	
Highest Approach Minor Street	150	105	200	140	74	30	26	27	32	30	31	33	
	(120)	(84)	(160)	(112)	74	30	26	27	32	30	31	33	

Condition B - Interruption of Continuous Traffic **100% SATISFIED** YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	12:00 PM	1:00 PM	2:00 PM	12:00 AM	4:00 PM	5:00 PM	Hour
Both Approaches Major Street	750	525	900	630	874	738	615	679	822	910	931	916	
	(600)	(420)	(720)	(504)	874	738	615	679	822	910	931	916	
Highest Approach Minor Street	75	53	100	70	74	30	26	27	32	30	31	33	
	(60)	(42)	(80)	(56)	74	30	26	27	32	30	31	33	

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Combination of Conditions A & B **SATISFIED** YES ☐ NO ☑

REQUIREMENT	WARRANT		FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☑
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

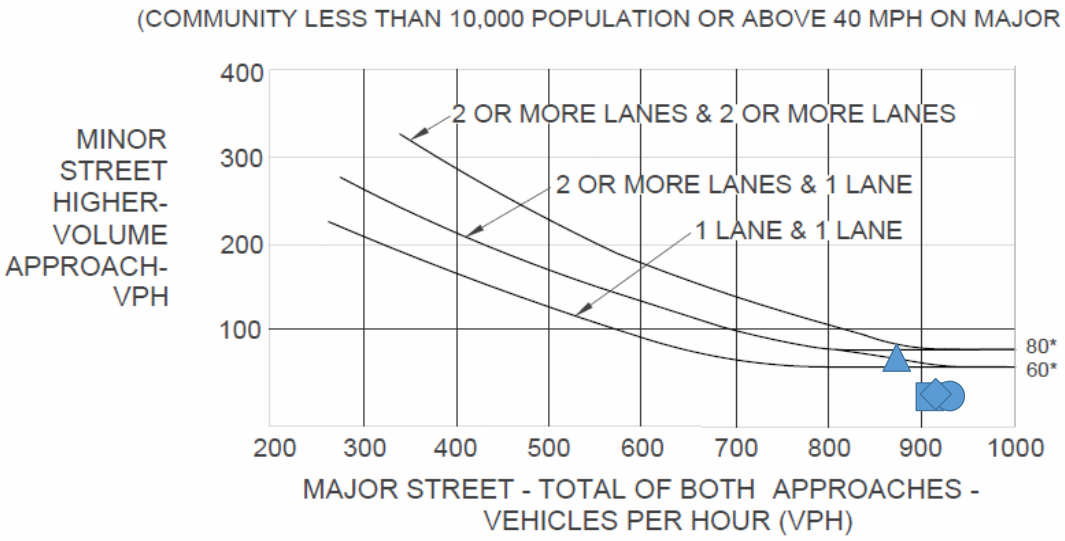
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570 - 8991

Warrant 2: Four-Hour Vehicular Volume (Rural)

Existing Traffic Conditions

5. Lovers Lane / Sunnyside Avenue



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor street approach with one lane.

	1 Lane & 1 Lane	2 or More Lanes & 1 Lane	2 or More Lanes & 2 or More Lanes	▲ 7:00 AM Volume	■ 3:00 PM Volume	● 4:00 PM Volume	◆ 5:00 PM Volume
Major Street (Total of Both Approaches)	☐	☑	☐	874	910	931	916
Minor Street (Higher Volume Approach)				74	30	31	33

Satisfied: ☐ **Yes** ☑ **No**

Calculated By: DCC Date: 11/05/25
Checked By: DC Date: 11/07/25

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.
www.JLBTraffic.com
info@JLBTraffic.com
516 W Shaw Ave., Ste 103
Fresno, CA 93704
(559) 570-8991

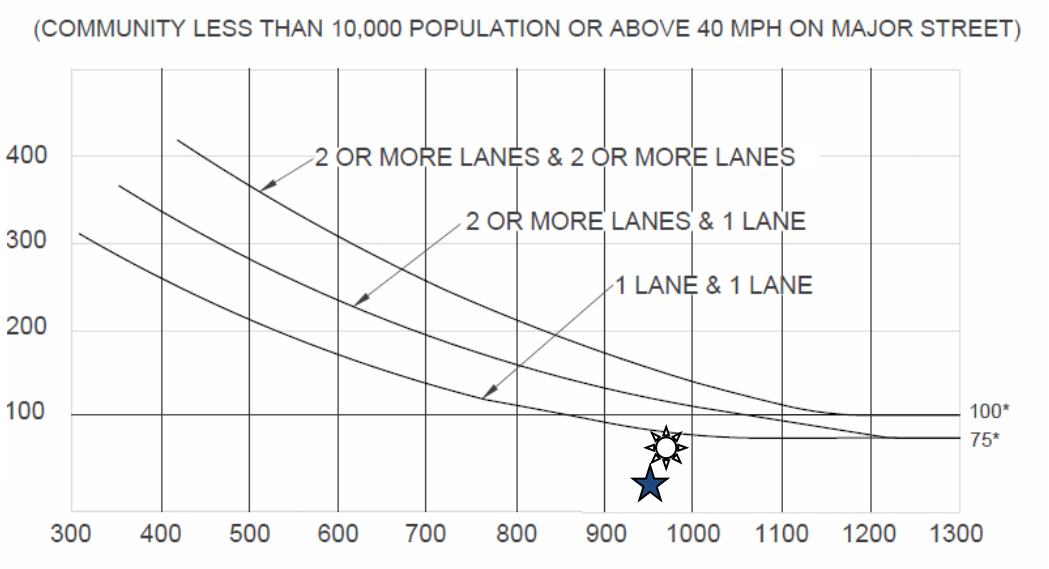
Warrant 3: Peak Hour (Rural)

Existing Traffic Conditions
5. Lovers Lane / Sunnyside Avenue
AM (PM) Peak Hour

Sunnyside Avenue

Highest Approach Volume =

72 (35) VPH



Lovers Lane Total of Both Approaches =

985 (972) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103

Fresno, CA 93704

(559) 570-8991

California MUTCD 2014 Edition

(FHWA'S MUTCD 2009 Edition, as amended for use in California)

Signal Warrant Analysis

Existing Traffic Conditions

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

006	Fresno	N/A	N/A
DIST	CO	RTE	KPM

COUNT DATE 09/09/25

CALC DCC DATE 11/05/25

CHK DC DATE 11/07/25

Major St: **Pinkham Street**

Minor St: **Caldwell Avenue**

Critical Approach Speed 40 MPH

Critical speed of major street traffic > 64 km/h (40 mph)..... ☑

In built up area of isolated community of < 10,000 population ..... ☐

or

☐ RURAL (R)

☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

SATISFIED YES ☐ NO ☑

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume

100% SATISFIED YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	644	659	629	669	741	698	712	625
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	38	38	45	59	66	56	48	50

Hour

Condition B - Interruption of Continuous Traffic

100% SATISFIED YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	644	659	629	669	741	698	712	625
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	38	38	45	59	66	56	48	50

Hour

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Combination of Conditions A & B **SATISFIED** YES ☐ NO ☑

REQUIREMENT	WARRANT		FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☑
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

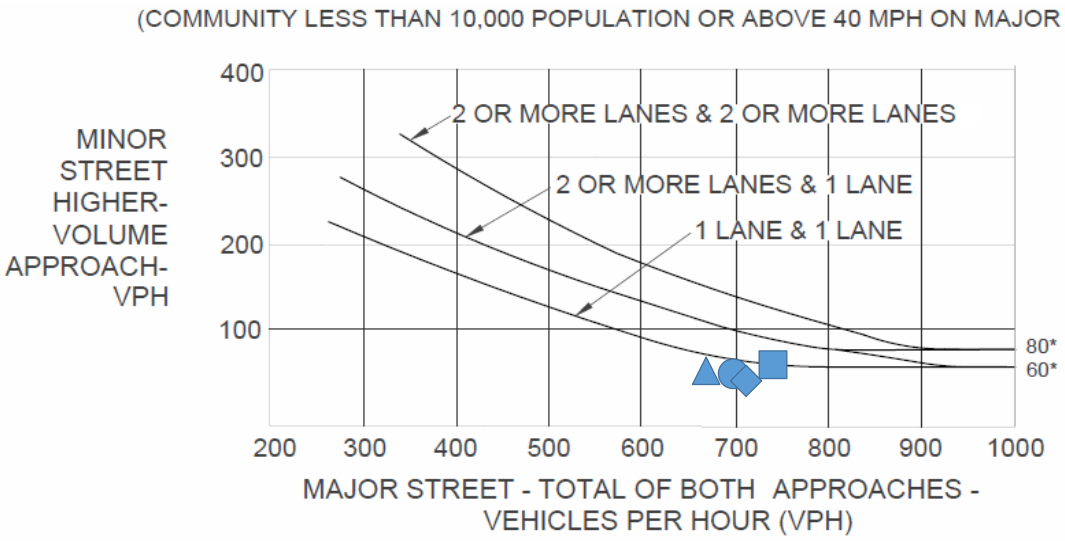
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570 - 8991

Warrant 2: Four-Hour Vehicular Volume (Rural)

Existing Traffic Conditions

10. Pinkham Street / Caldwell Avenue



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor street approach with one lane.

	1 Lane & 1 Lane	2 or More Lanes & 1 Lane	2 or More Lanes & 2 or More Lanes	2:00 PM Volume	3:00 PM Volume	4:00 PM Volume	5:00 PM Volume
Major Street (Total of Both Approaches)	☑	☐	☐	669	741	698	712
Minor Street (Higher Volume Approach)				59	66	56	48

Satisfied: ☐ **Yes** ☑ **No**

Calculated By: DCC Date: 11/05/25

Checked By: DC Date: 11/07/25

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBTraffic.com
info@JLBTraffic.com

516 W Shaw Ave., Ste 103
Fresno, CA 93704
(559) 570-8991

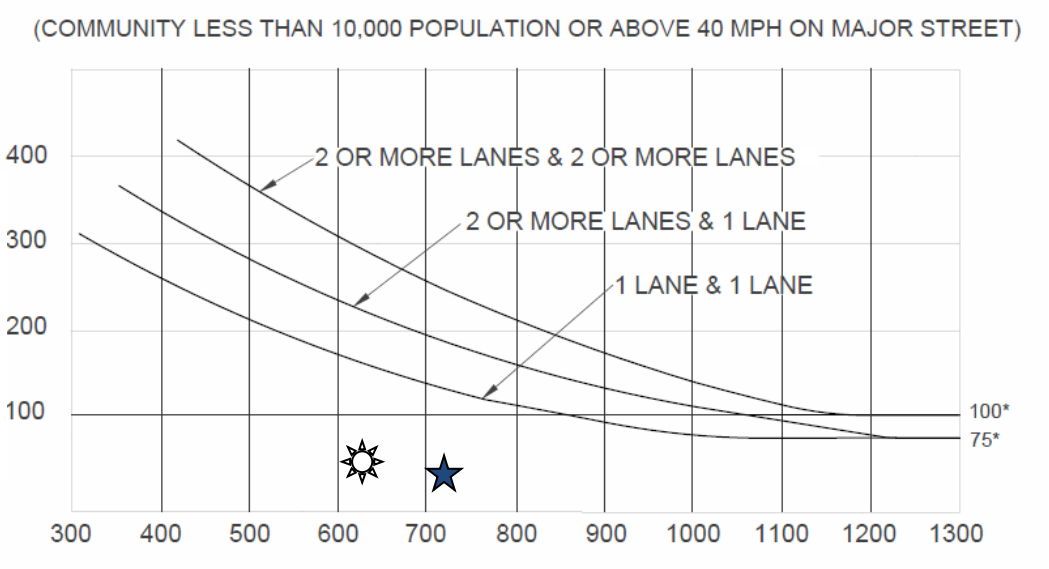
Warrant 3: Peak Hour (Rural)

Existing Traffic Conditions
10. Pinkham Street / Caldwell Avenue
AM (PM) Peak Hour

Pinkham Street

Highest Approach Volume =

64 (55) VPH



Caldwell Avenue Total of Both Approaches =

629 (719) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103

Fresno, CA 93704

(559) 570-8991

California MUTCD 2014 Edition

(FHWA'S MUTCD 2009 Edition, as amended for use in California)

Signal Warrant Analysis

Existing Traffic Conditions

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

006	Fresno	N/A	N/A
DIST	CO	RTE	KPM

COUNT DATE 10/28/25

CALC DCC DATE 11/24/25

CHK MA DATE 11/24/25

Major St: **Road 148**

Minor St: **Caldwell Avenue**

Critical Approach Speed 40 MPH

Critical speed of major street traffic > 64 km/h (40 mph)..... ☑

In built up area of isolated community of < 10,000 population ..... ☐

or } RURAL (R)

☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

SATISFIED YES ☐ NO ☑

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume

100% SATISFIED YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	Hour
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	530	559	613	604	758	705	693	554	
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	73	30	35	23	80	58	62	24	

Condition B - Interruption of Continuous Traffic

100% SATISFIED YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	Hour
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	530	559	613	604	758	705	693	554	
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	73	30	35	23	80	58	62	24	

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Combination of Conditions A & B **SATISFIED** YES ☐ NO ☑

REQUIREMENT	WARRANT		FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☑
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

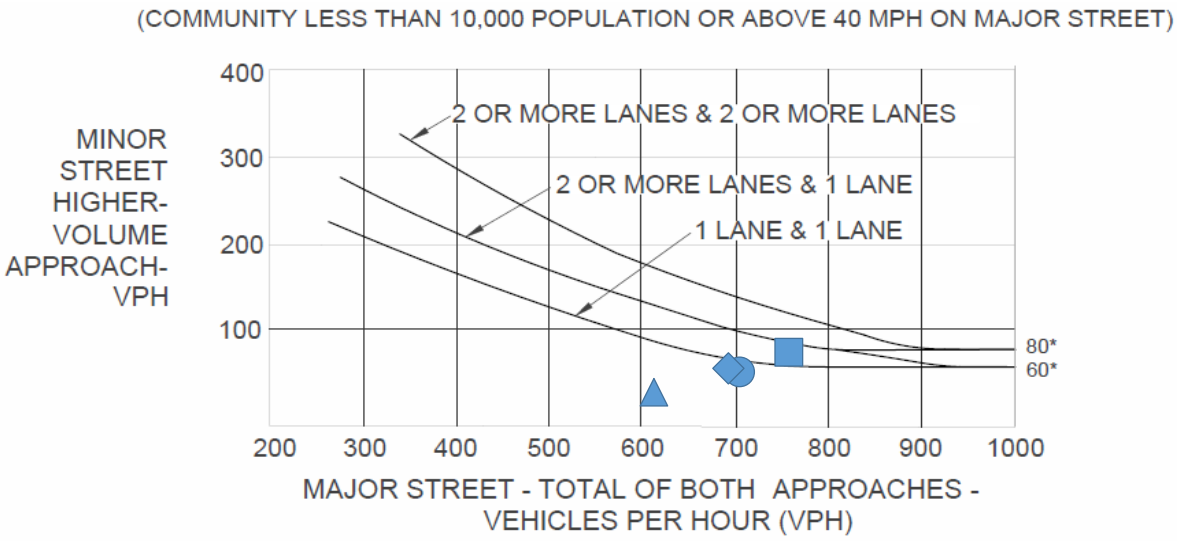
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570 - 8991

Warrant 2: Four-Hour Vehicular Volume (Rural)

Existing Traffic Conditions

12. Road 148 / Caldwell Avenue



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor street approach with one lane.

	1 Lane & 1 Lane	2 or More Lanes & 1 Lane	2 or More Lanes & 2 or More Lanes	1:00 PM Volume	3:00 PM Volume	4:00 PM Volume	5:00 PM Volume
Major Street (Total of Both Approaches)	☑	☐	☐	613	758	705	693
Minor Street (Higher Volume Approach)				35	80	58	62

Satisfied: ☐ **Yes** ☑ **No**

Calculated By: DCC Date: 11/24/25

Checked By: MA Date: 11/24/25

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

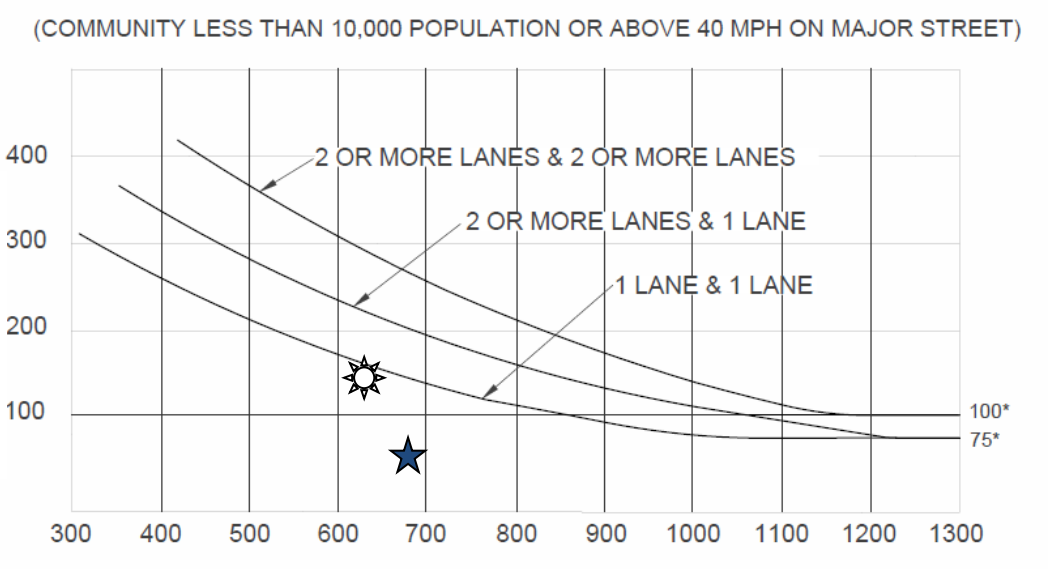
www.JLBTraffic.com
info@JLBTraffic.com

516 W Shaw Ave., Ste 103
Fresno, CA 93704
(559) 570-8991

Warrant 3: Peak Hour (Rural)

Existing Traffic Conditions
12. Road 148 / Caldwell Avenue
AM (PM) Peak Hour

Road 148
Highest Approach Volume =
129 (67) VPH



Caldwell Avenue Total of Both Approaches =

636 (690) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570-8991

California MUTCD 2014 Edition

(FHWA'S MUTCD 2009 Edition, as amended for use in California)

Signal Warrant Analysis

Opening Year No Project Traffic Conditions

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

DIST	CO	RTE	KPM
006	Fresno	N/A	N/A

COUNT DATE 09/09/25

CALC DCC DATE 11/05/25

CHK DC DATE 11/05/25

Major St: **Pinkham Street**

Minor St: **K Avenue**

Critical Approach Speed 40 MPH

☑ Critical speed of major street traffic > 64 km/h (40 mph)..... or RURAL (R)

☐ In built up area of isolated community of < 10,000 population ..... RURAL (R)

☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

SATISFIED YES ☐ NO ☑

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume

100% SATISFIED YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	12:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	Hour
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	325	218	187	305	244	256	280	186	
					325	218	187	305	244	256	280	186	
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	157	113	93	126	135	161	165	104	
					157	113	93	126	135	161	165	104	

Condition B - Interruption of Continuous Traffic

100% SATISFIED YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	12:00 PM	2:00 PM	3:00 PM	12:00 AM	5:00 PM	6:00 PM	Hour
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	325	218	187	305	244	256	280	186	
					325	218	187	305	244	256	280	186	
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	157	113	93	126	135	161	165	104	
					157	113	93	126	135	161	165	104	

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Combination of Conditions A & B **SATISFIED** YES ☐ NO ☑

REQUIREMENT	WARRANT		FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☑
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

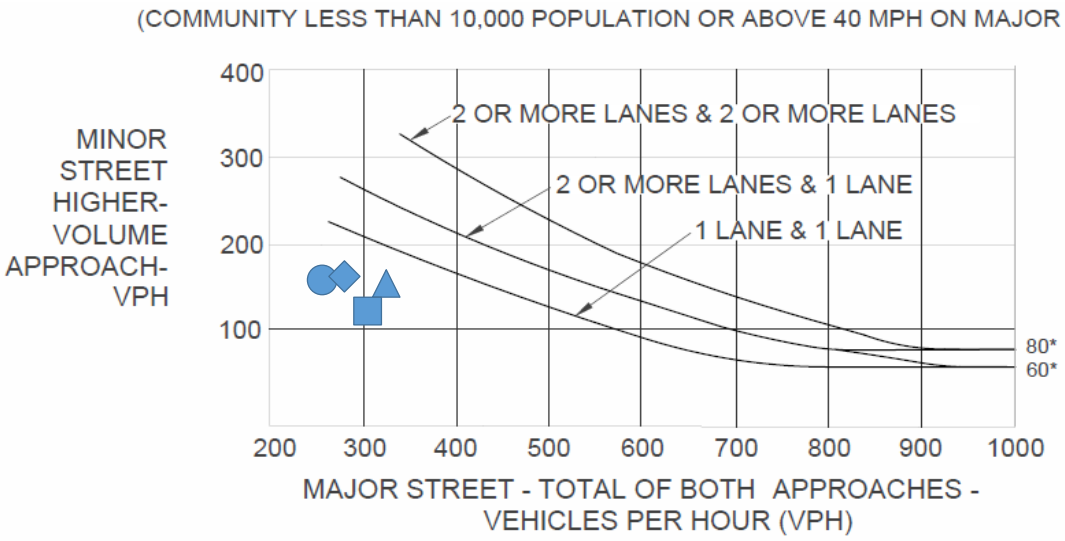
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570 - 8991

Warrant 2: Four-Hour Vehicular Volume (Rural)

Opening Year No Project Traffic Conditions

2. Pinkham Street / K Avenue



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor street approach with one lane.

	1 Lane & 1 Lane	2 or More Lanes & 1 Lane	2 or More Lanes & 2 or More Lanes	7:00 AM Volume	2:00 PM Volume	4:00 PM Volume	5:00 PM Volume
Major Street (Total of Both Approaches)	☑	☐	☐	325	305	256	280
Minor Street (Higher Volume Approach)				157	126	161	165

Satisfied: ☐ **Yes** ☑ **No**

Calculated By: DCC Date: 11/05/25

Checked By: DC Date: 11/05/25

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

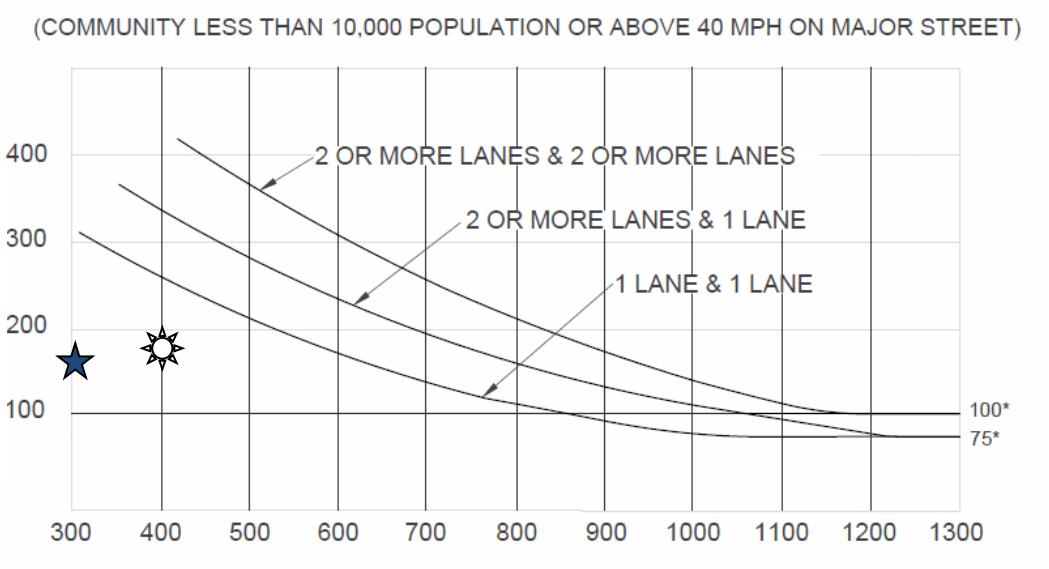
www.JLBTraffic.com
info@JLBTraffic.com

516 W Shaw Ave., Ste 103
Fresno, CA 93704
(559) 570-8991

Warrant 3: Peak Hour (Rural)

Opening Year No Project Traffic Conditions
2. Pinkham Street / K Avenue
AM (PM) Peak Hour

K Avenue Highest Approach Volume = 179 (163) VPH



Pinkham Street Total of Both Approaches =

400 (301) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570-8991

California MUTCD 2014 Edition

(FHWA'S MUTCD 2009 Edition, as amended for use in California)

Signal Warrant Analysis

Opening Year No Project Traffic Conditions

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

DIST	CO	RTE	KPM
006	Fresno	N/A	N/A

COUNT DATE 09/09/25

CALC DCC DATE 11/05/25

CHK DC DATE 11/07/25

Major St: **Lovers Lane** Critical Approach Speed 40 MPH

Minor St: **K Avenue**

Critical speed of major street traffic > 64 km/h (40 mph)..... ☑

In built up area of isolated community of < 10,000 population ..... ☐

or } RURAL (R)

☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

SATISFIED YES ☐ NO ☑

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume

100% SATISFIED YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	Hour
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	910	783	724	860	953	971	972	640	
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	94	63	49	67	90	96	105	80	

Condition B - Interruption of Continuous Traffic

100% SATISFIED YES ☐ NO ☑

80 % SATISFIED YES ☑ NO ☐

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	Hour
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	910	783	724	860	953	971	972	640	
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	94	63	49	67	90	96	105	80	

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Combination of Conditions A & B **SATISFIED** YES ☐ NO ☑

REQUIREMENT	WARRANT		FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☑
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

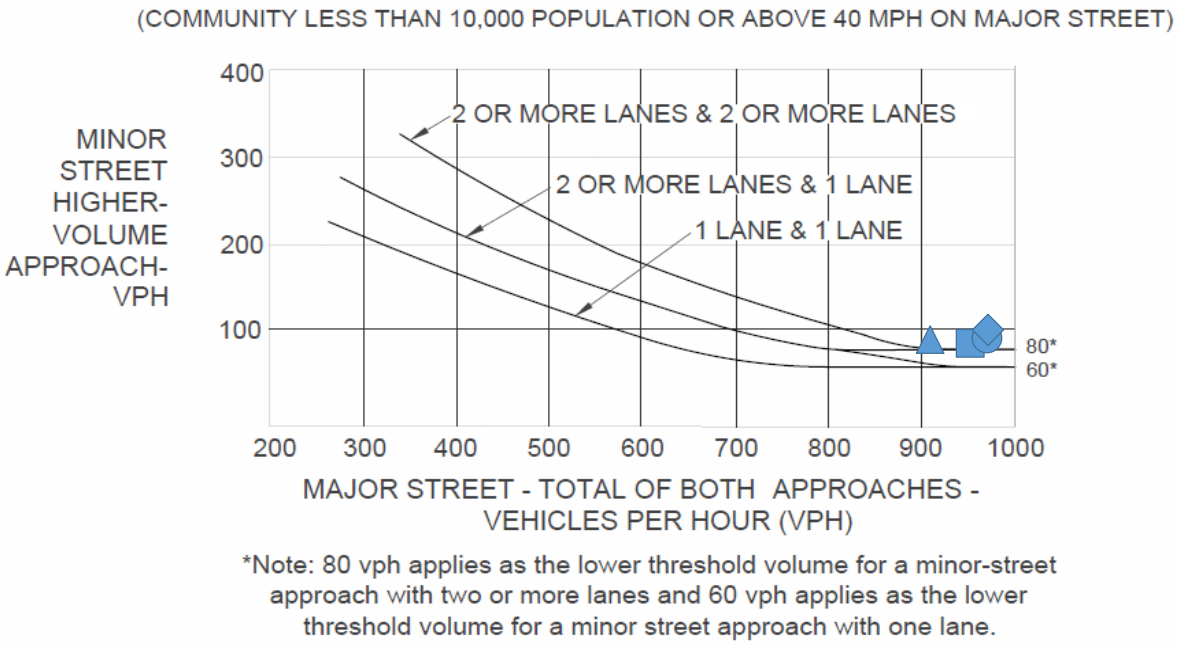
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570 - 8991

Warrant 2: Four-Hour Vehicular Volume (Rural)

Opening Year No Project Traffic Conditions

3. Lovers Lane / K Avenue



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor street approach with one lane.

	1 Lane & 1 Lane	2 or More Lanes & 1 Lane	2 or More Lanes & 2 or More Lanes	7:00 AM Volume	3:00 PM Volume	4:00 PM Volume	5:00 PM Volume
Major Street (Total of Both Approaches)	☐	☑	☐	910	953	971	972
Minor Street (Higher Volume Approach)				94	90	96	105

Satisfied: ☑ **Yes** ☐ **No**

Calculated By: DCC Date: 11/05/25
Checked By: DC Date: 11/07/25

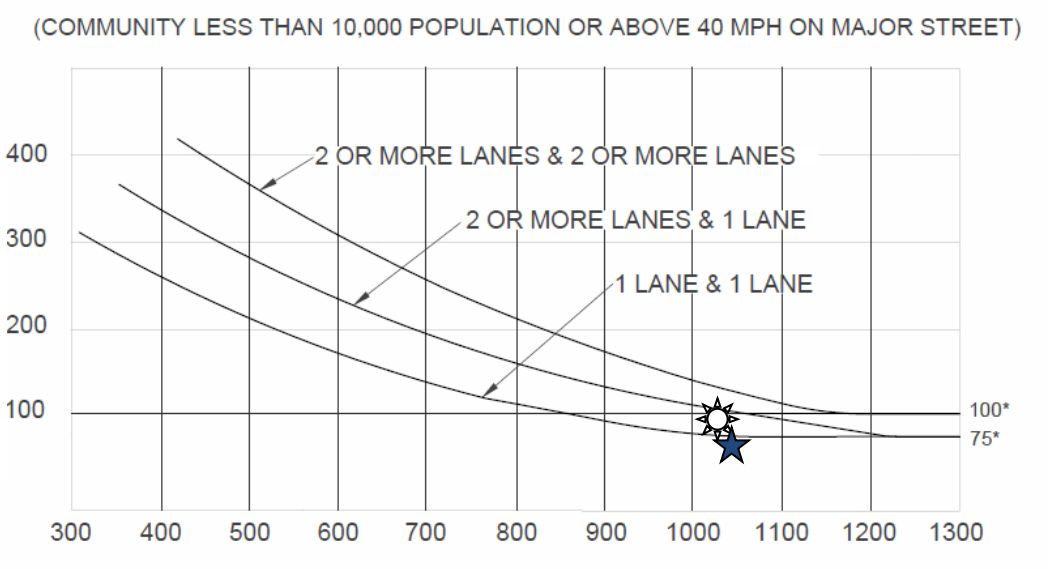
Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.
www.JLBTraffic.com
info@JLBTraffic.com
516 W Shaw Ave., Ste 103
Fresno, CA 93704
(559) 570-8991

Warrant 3: Peak Hour (Rural)

Opening Year No Project Traffic Conditions
3. Lovers Lane / K Avenue
AM (PM) Peak Hour

K Avenue Highest Approach Volume = 104 (71) VPH



Lovers Lane Total of Both Approaches =

1039 (1047) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103

Fresno, CA 93704

(559) 570-8991

California MUTCD 2014 Edition

(FHWA'S MUTCD 2009 Edition, as amended for use in California)

Signal Warrant Analysis

Opening Year No Project Traffic Conditions

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

DIST	CO	RTE	KPM
006	Fresno	N/A	N/A

COUNT DATE 09/09/25

CALC DCC DATE 11/05/25

CHK DC DATE 11/07/25

Major St: **Lovers Lane** Critical Approach Speed 40 MPH

Minor St: **Sunnyside Avenue**

Critical speed of major street traffic > 64 km/h (40 mph)..... ☑ or RURAL (R)

In built up area of isolated community of < 10,000 population ..... ☐ ☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

SATISFIED YES ☐ NO ☑

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume **100% SATISFIED** YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	Hour
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	901	760	634	699	846	937	959	943	
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	75	30	26	27	32	30	31	34	

Condition B - Interruption of Continuous Traffic **100% SATISFIED** YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	12:00 PM	1:00 PM	2:00 PM	12:00 AM	4:00 PM	5:00 PM	Hour
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	901	760	634	699	846	937	959	943	
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	75	30	26	27	32	30	31	34	

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Combination of Conditions A & B **SATISFIED** YES ☐ NO ☑

REQUIREMENT	WARRANT		FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☑
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

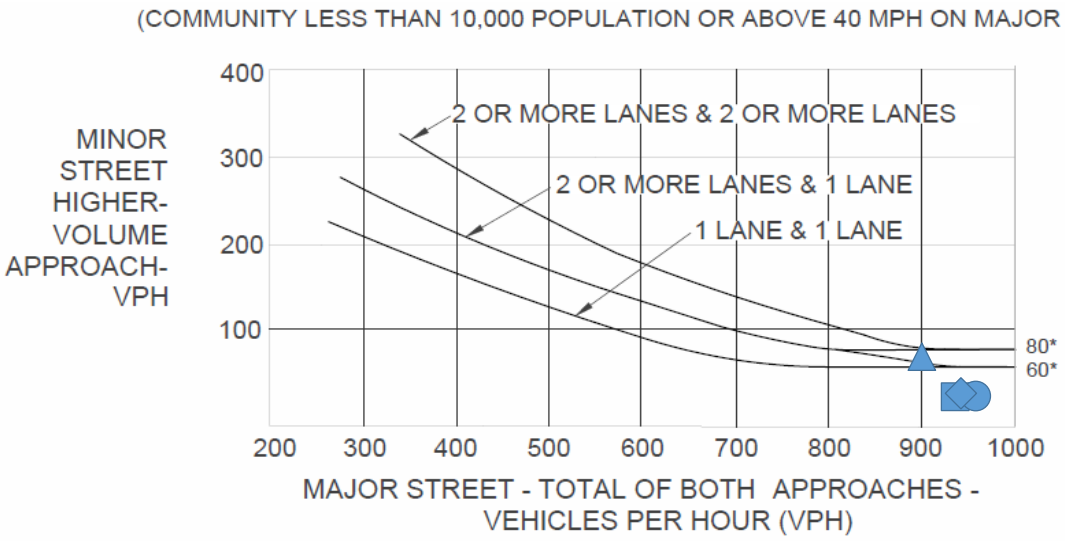
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570 - 8991

Warrant 2: Four-Hour Vehicular Volume (Rural)

Opening Year No Project Traffic Conditions

5. Lovers Lane / Sunnyside Avenue



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor street approach with one lane.

	1 Lane & 1 Lane	2 or More Lanes & 1 Lane	2 or More Lanes & 2 or More Lanes	▲ 7:00 AM Volume	■ 3:00 PM Volume	● 4:00 PM Volume	◆ 5:00 PM Volume
Major Street (Total of Both Approaches)	☐	☑	☐	901	937	959	943
Minor Street (Higher Volume Approach)				75	30	31	34

Satisfied: ☐ **Yes** ☑ **No**

Calculated By: DCC Date: 11/05/25

Checked By: DC Date: 11/07/25

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBTraffic.com
info@JLBTraffic.com

516 W Shaw Ave., Ste 103
Fresno, CA 93704
(559) 570-8991

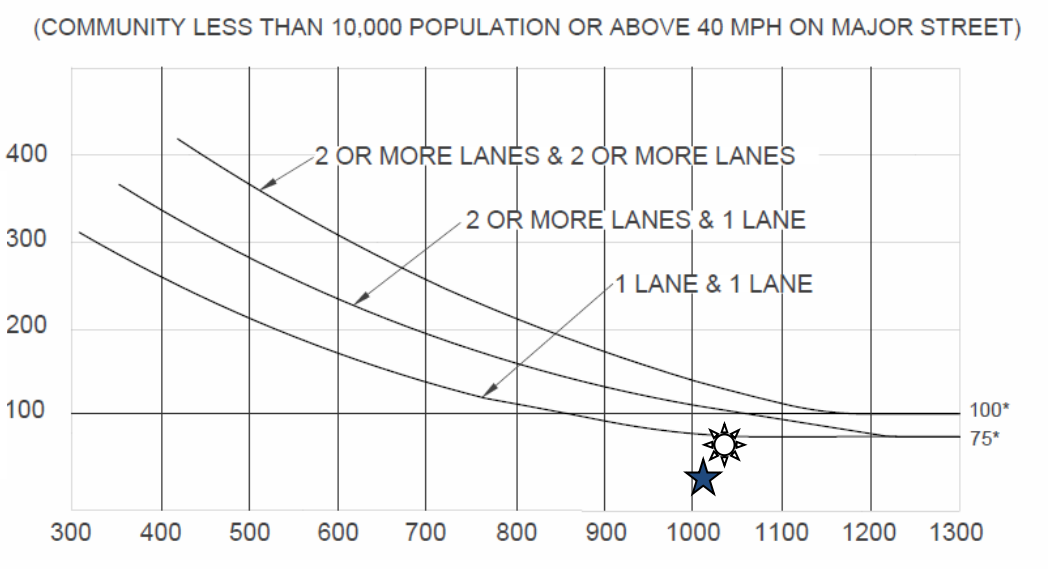
Warrant 3: Peak Hour (Rural)

Opening Year No Project Traffic Conditions
5. Lovers Lane / Sunnyside Avenue
AM (PM) Peak Hour

Sunnyside Avenue

Highest Approach Volume =

72 (36) VPH



Lovers Lane Total of Both Approaches =

1042 (1028) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103

Fresno, CA 93704

(559) 570-8991

California MUTCD 2014 Edition

(FHWA'S MUTCD 2009 Edition, as amended for use in California)

Signal Warrant Analysis

Opening Year No Project Traffic Conditions

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

DIST	CO	RTE	KPM
006	Fresno	N/A	N/A

COUNT DATE 09/09/25

CALC DCC DATE 11/05/25

CHK DC DATE 11/07/25

Major St: **Pinkham Street**

Minor St: **Caldwell Avenue**

Critical Approach Speed 40 MPH

Critical speed of major street traffic > 64 km/h (40 mph)..... ☑

In built up area of isolated community of < 10,000 population ..... ☐

or } RURAL (R)

☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

SATISFIED YES ☐ NO ☑

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume

100% SATISFIED YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	11:00 AM	12:00 PM	1:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	Hour
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	688	705	673	673	716	793	746	761	
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	38	38	45	45	59	66	56	48	

Condition B - Interruption of Continuous Traffic

100% SATISFIED YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	11:00 AM	12:00 PM	1:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	Hour
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	688	705	673	673	716	793	746	761	
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	38	38	45	45	59	66	56	48	

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Combination of Conditions A & B **SATISFIED** YES ☐ NO ☑

REQUIREMENT	WARRANT		FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☑
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

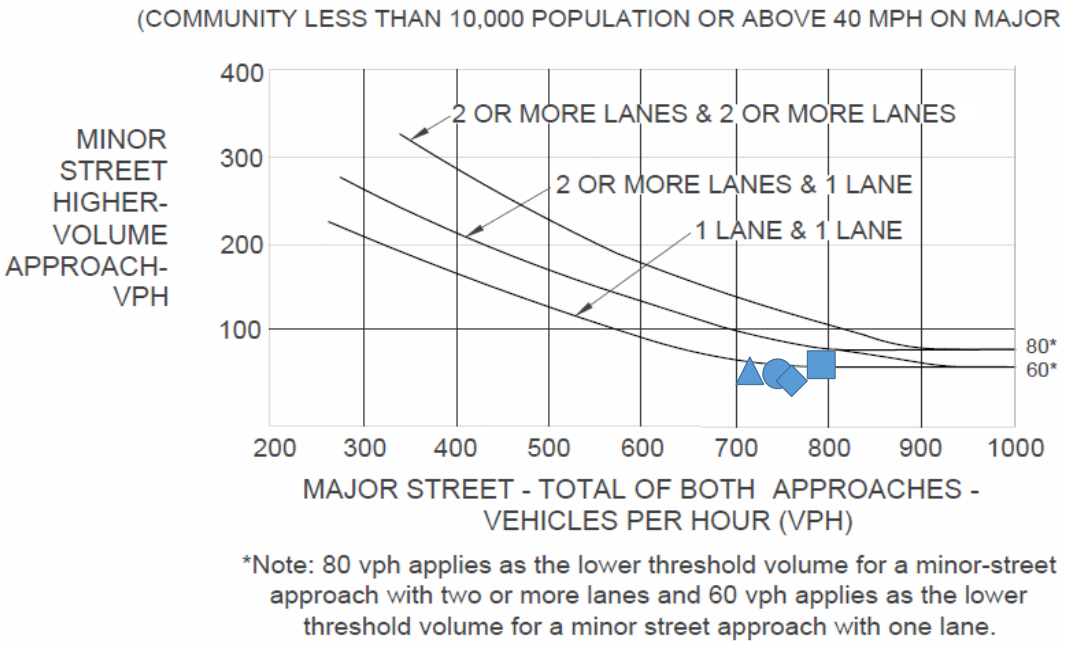
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570 - 8991

Warrant 2: Four-Hour Vehicular Volume (Rural)

Opening Year No Project Traffic Conditions

10. Pinkham Street / Caldwell Avenue



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor street approach with one lane.

	1 Lane & 1 Lane	2 or More Lanes & 1 Lane	2 or More Lanes & 2 or More Lanes	2:00 PM Volume	3:00 PM Volume	4:00 PM Volume	5:00 PM Volume
Major Street (Total of Both Approaches)	☑	☐	☐	716	793	746	761
Minor Street (Higher Volume Approach)				59	66	56	48

Satisfied: ☐ **Yes** ☑ **No**

Calculated By: DCC Date: 11/05/25

Checked By: DC Date: 11/07/25

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBTraffic.com
info@JLBTraffic.com

516 W Shaw Ave., Ste 103
Fresno, CA 93704
(559) 570-8991

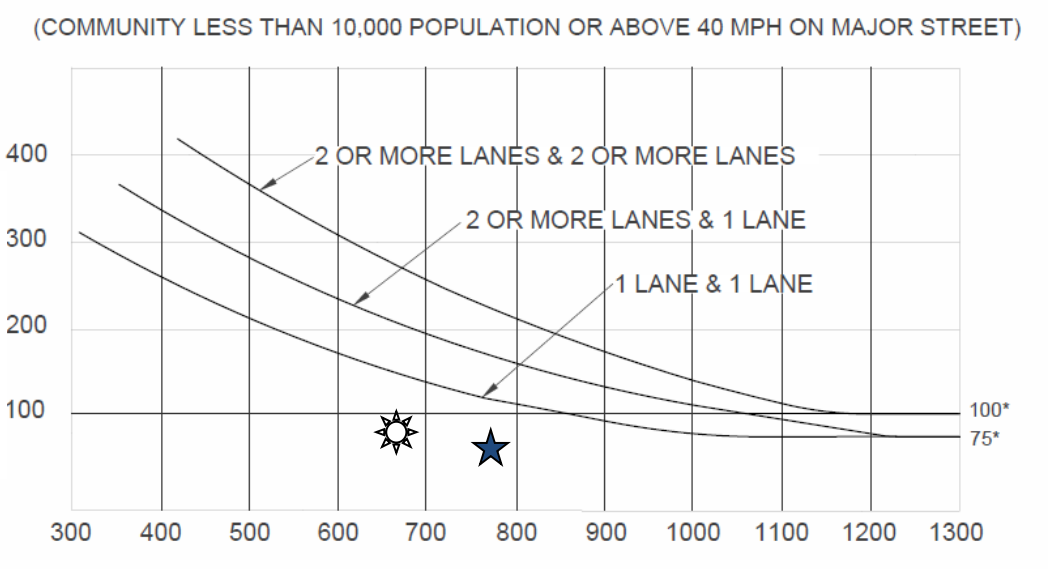
Warrant 3: Peak Hour (Rural)

Opening Year No Project Traffic Conditions
10. Pinkham Street / Caldwell Avenue
AM (PM) Peak Hour

Pinkham Street

Highest Approach Volume =

74 (66) VPH



Caldwell Avenue Total of Both Approaches =

679 (782) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103

Fresno, CA 93704

(559) 570-8991

California MUTCD 2014 Edition

(FHWA'S MUTCD 2009 Edition, as amended for use in California)

Signal Warrant Analysis

Opening Year No Project Traffic Conditions

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

DIST	CO	RTE	KPM
006	Fresno	N/A	N/A

COUNT DATE 10/28/25

CALC DCC DATE 11/24/25

CHK MA DATE 11/24/25

Major St: **Road 148**

Minor St: **Caldwell Avenue**

Critical Approach Speed 40 MPH

Critical speed of major street traffic > 64 km/h (40 mph)..... ☑

In built up area of isolated community of < 10,000 population ..... ☐

or } RURAL (R)

☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

SATISFIED YES ☐ NO ☑

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume **100% SATISFIED** YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	Hour
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	560	533	590	648	638	801	745	732	
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	96	83	38	45	30	105	76	81	

Condition B - Interruption of Continuous Traffic **100% SATISFIED** YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	Hour
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	560	533	590	648	638	801	745	732	
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	96	83	38	45	30	105	76	81	

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Combination of Conditions A & B **SATISFIED** YES ☐ NO ☑

REQUIREMENT	WARRANT		FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☑
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

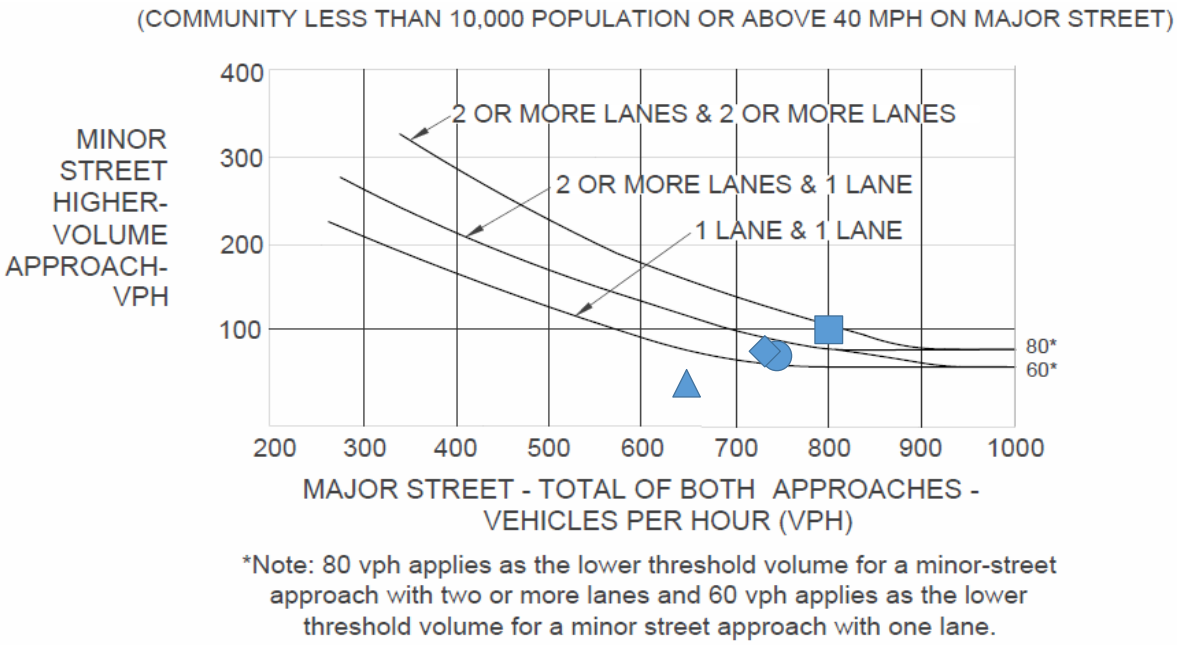
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570 - 8991

Warrant 2: Four-Hour Vehicular Volume (Rural)

Opening Year No Project Traffic Conditions

12. Road 148 / Caldwell Avenue



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor street approach with one lane.

	1 Lane & 1 Lane	2 or More Lanes & 1 Lane	2 or More Lanes & 2 or More Lanes	1:00 PM Volume	3:00 PM Volume	4:00 PM Volume	5:00 PM Volume
Major Street (Total of Both Approaches)	☑	☐	☐	648	801	745	732
Minor Street (Higher Volume Approach)				45	105	76	81

Satisfied: ☐ **Yes** ☑ **No**

Calculated By: DCC Date: 11/24/25

Checked By: MA Date: 11/24/25

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

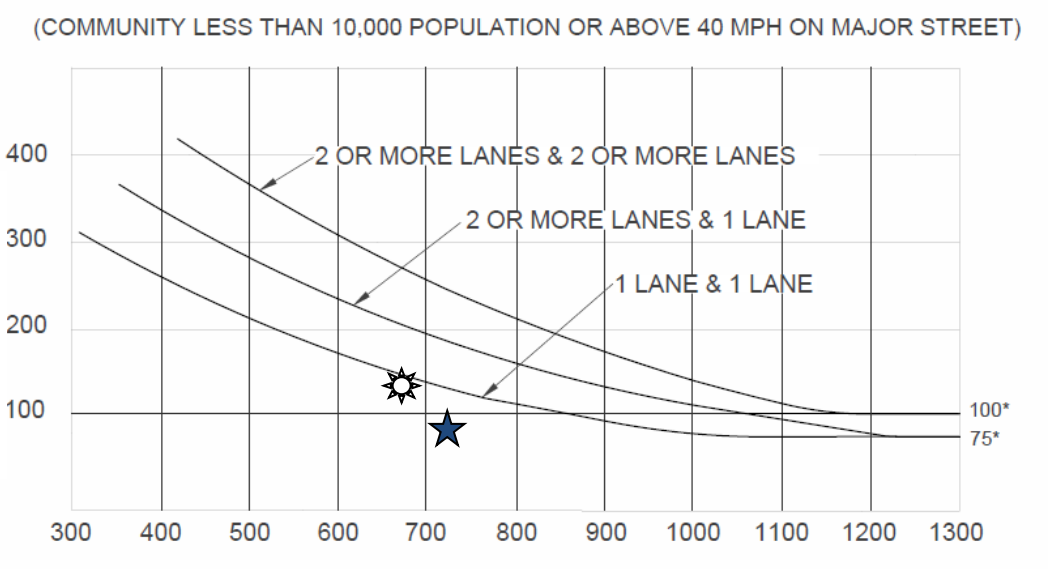
www.JLBTraffic.com
info@JLBTraffic.com

516 W Shaw Ave., Ste 103
Fresno, CA 93704
(559) 570-8991

Warrant 3: Peak Hour (Rural)

Opening Year No Project Traffic Conditions
12. Road 148 / Caldwell Avenue
AM (PM) Peak Hour

Road 148
Highest Approach Volume =
140 (82) VPH



Caldwell Avenue Total of Both Approaches =

682 (724) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570-8991

California MUTCD 2014 Edition

(FHWA'S MUTCD 2009 Edition, as amended for use in California)

Signal Warrant Analysis

Opening Year plus Phase 1 Traffic Conditions

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

DIST	CO	RTE	KPM
006	Fresno	N/A	N/A

COUNT DATE 09/09/25

CALC DCC DATE 11/05/25

CHK DC DATE 11/05/25

Major St: **Pinkham Street**

Minor St: **K Avenue**

Critical Approach Speed 40 MPH

Critical speed of major street traffic > 64 km/h (40 mph)..... ☑

In built up area of isolated community of < 10,000 population ..... ☐

or } RURAL (R)

☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

SATISFIED YES ☐ NO ☑

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume

100% SATISFIED YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	12:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	Hour
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	332	225	193	312	260	270	289	200	
					332	225	193	312	260	270	289	200	
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	157	117	93	126	143	169	152	111	
					157	117	93	126	143	169	152	111	

Condition B - Interruption of Continuous Traffic

100% SATISFIED YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	12:00 PM	2:00 PM	3:00 PM	12:00 AM	5:00 PM	6:00 PM	Hour
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	332	225	193	312	260	270	289	200	
					332	225	193	312	260	270	289	200	
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	157	117	93	126	143	169	152	111	
					157	117	93	126	143	169	152	111	

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Combination of Conditions A & B **SATISFIED** YES ☐ NO ☑

REQUIREMENT	WARRANT		FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☑
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

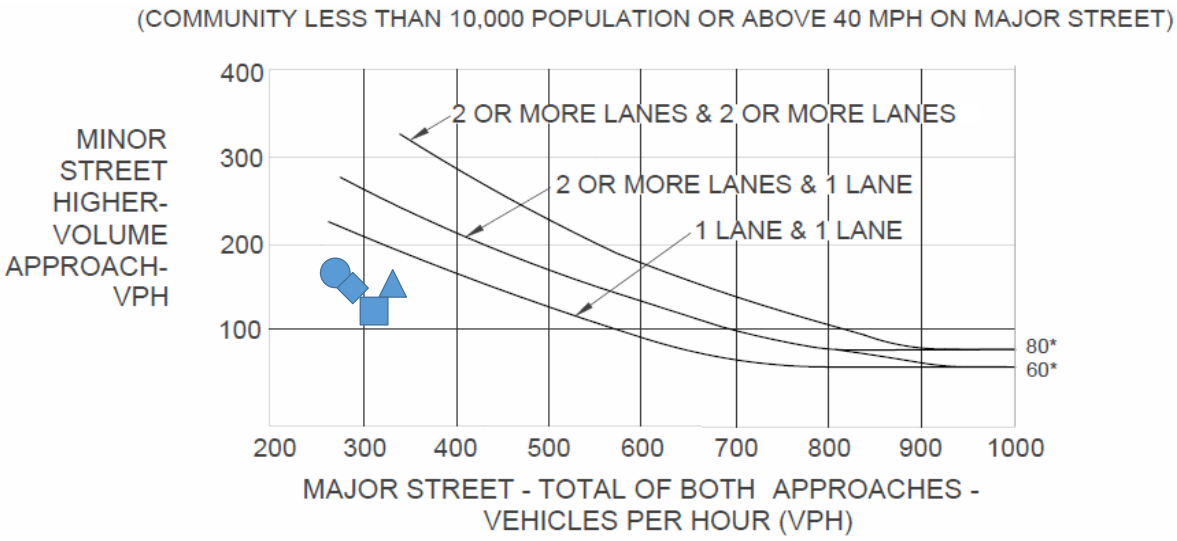
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570 - 8991

Warrant 2: Four-Hour Vehicular Volume (Rural)

Opening Year plus Phase 1 Traffic Conditions

2. Pinkham Street / K Avenue



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor street approach with one lane.

	1 Lane & 1 Lane	2 or More Lanes & 1 Lane	2 or More Lanes & 2 or More Lanes	7:00 AM Volume	2:00 PM Volume	4:00 PM Volume	5:00 PM Volume
Major Street (Total of Both Approaches)	☑	☐	☐	332	312	270	289
Minor Street (Higher Volume Approach)				157	126	169	152

Satisfied: ☐ **Yes** ☑ **No**

Calculated By: DCC Date: 11/05/25

Checked By: DC Date: 11/05/25

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

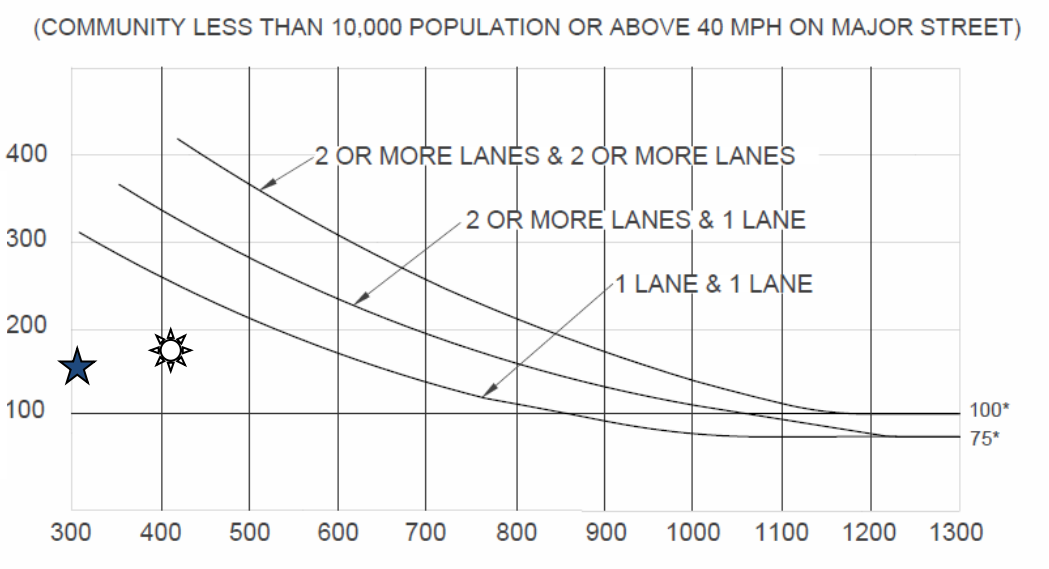
www.JLBTraffic.com
info@JLBTraffic.com

516 W Shaw Ave., Ste 103
Fresno, CA 93704
(559) 570-8991

Warrant 3: Peak Hour (Rural)

Opening Year plus Phase 1 Traffic Conditions
2. Pinkham Street / K Avenue
AM (PM) Peak Hour

K Avenue Highest Approach Volume = 179 (163) VPH



Pinkham Street Total of Both Approaches =

415 (304) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570-8991

California MUTCD 2014 Edition

(FHWA'S MUTCD 2009 Edition, as amended for use in California)

Signal Warrant Analysis

Opening Year plus Phase 1 Traffic Conditions

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

DIST	CO	RTE	KPM
006	Fresno	N/A	N/A

COUNT DATE 09/09/25

CALC DCC DATE 11/05/25

CHK DC DATE 11/07/25

Major St: **Lovers Lane** Critical Approach Speed 40 MPH

Minor St: **K Avenue**

Critical speed of major street traffic > 64 km/h (40 mph)..... ☑

In built up area of isolated community of < 10,000 population ..... ☐

or } RURAL (R)

☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

SATISFIED YES ☐ NO ☑

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume

100% SATISFIED YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	Hour
Both Approaches Major Street	500	350	600	420	1019	883	815	967	1074	1112	1100	750	
	(400)	(280)	(480)	(336)	1019	883	815	967	1074	1112	1100	750	
Highest Approach Minor Street	150	105	200	140	95	64	50	68	92	98	107	82	
	(120)	(84)	(160)	(112)	95	64	50	68	92	98	107	82	

Condition B - Interruption of Continuous Traffic

100% SATISFIED YES ☐ NO ☑

80 % SATISFIED YES ☑ NO ☐

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	Hour
Both Approaches Major Street	750	525	900	630	1019	883	815	967	1074	1112	1100	750	
	(600)	(420)	(720)	(504)	1019	883	815	967	1074	1112	1100	750	
Highest Approach Minor Street	75	53	100	70	95	64	50	68	92	98	107	82	
	(60)	(42)	(80)	(56)	95	64	50	68	92	98	107	82	

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Combination of Conditions A & B **SATISFIED** YES ☐ NO ☑

REQUIREMENT	WARRANT		FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☑
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

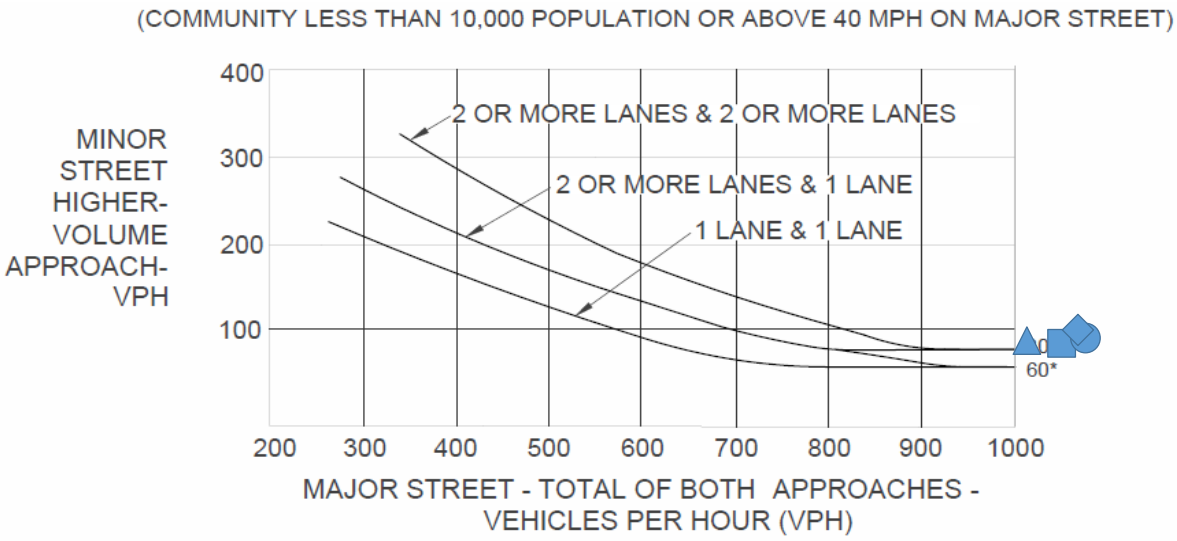
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570 - 8991

Warrant 2: Four-Hour Vehicular Volume (Rural)

Opening Year plus Phase 1 Traffic Conditions

3. Lovers Lane / K Avenue



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor street approach with one lane.

	1 Lane & 1 Lane	2 or More Lanes & 1 Lane	2 or More Lanes & 2 or More Lanes	▲ 7:00 AM Volume	■ 3:00 PM Volume	● 4:00 PM Volume	◆ 5:00 PM Volume
Major Street (Total of Both Approaches)	☐	☑	☐	1019	1074	1112	1100
Minor Street (Higher Volume Approach)				95	92	98	107

Satisfied: ☑ **Yes** ☐ **No**

Calculated By: DCC Date: 11/05/25

Checked By: DC Date: 11/07/25

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

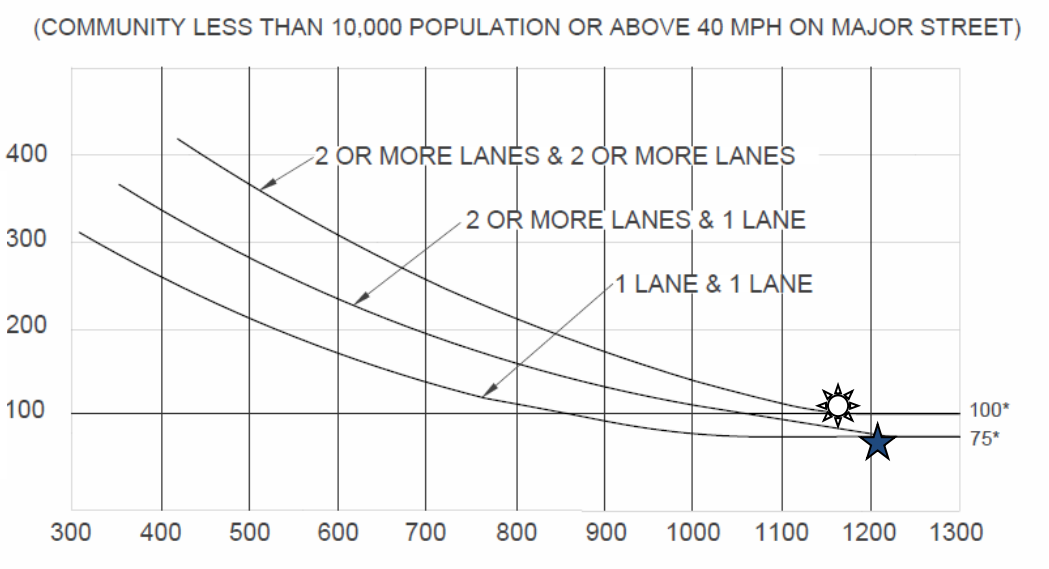
www.JLBTraffic.com
info@JLBTraffic.com

516 W Shaw Ave., Ste 103
Fresno, CA 93704
(559) 570-8991

Warrant 3: Peak Hour (Rural)

Opening Year plus Phase 1 Traffic Conditions
3. Lovers Lane / K Avenue
AM (PM) Peak Hour

K Avenue Highest Approach Volume = 107 (72) VPH



Lovers Lane Total of Both Approaches =

1165 (1209) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103

Fresno, CA 93704

(559) 570-8991

California MUTCD 2014 Edition

(FHWA'S MUTCD 2009 Edition, as amended for use in California)

Signal Warrant Analysis

Opening Year plus Phase 1 Traffic Conditions

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

DIST	CO	RTE	KPM
006	Fresno	N/A	N/A

COUNT DATE 09/09/25

CALC DCC DATE 11/05/25

CHK DC DATE 11/07/25

Major St: **Lovers Lane** Critical Approach Speed 40 MPH

Minor St: **Sunnyside Avenue**

Critical speed of major street traffic > 64 km/h (40 mph)..... ☑

In built up area of isolated community of < 10,000 population ..... ☐

or } RURAL (R)

☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

SATISFIED YES ☑ NO ☐

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume

100% SATISFIED YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	994	845	777	937	1041	1079	1052	709
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	75	69	63	74	84	97	88	77

Hour

Condition B - Interruption of Continuous Traffic

100% SATISFIED YES ☑ NO ☐

80 % SATISFIED YES ☑ NO ☐

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	1:00 PM	2:00 PM	3:00 PM	12:00 AM	5:00 PM	6:00 PM
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	994	845	777	937	1041	1079	1052	709
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	75	69	63	74	84	97	88	77

Hour

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Combination of Conditions A & B **SATISFIED** YES ☐ NO ☑

REQUIREMENT	WARRANT		FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☑
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

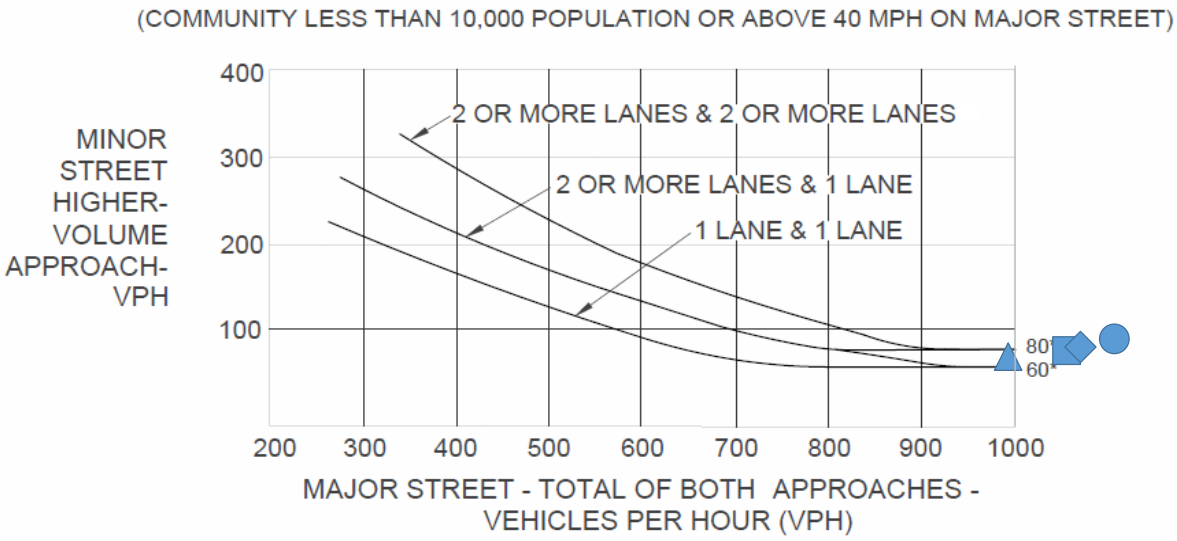
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570 - 8991

Warrant 2: Four-Hour Vehicular Volume (Rural)

Opening Year plus Phase 1 Traffic Conditions

5. Lovers Lane / Sunnyside Avenue



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor street approach with one lane.

	1 Lane & 1 Lane	2 or More Lanes & 1 Lane	2 or More Lanes & 2 or More Lanes	▲ 7:00 AM Volume	■ 3:00 PM Volume	● 4:00 PM Volume	◆ 5:00 PM Volume
Major Street (Total of Both Approaches)	☐	☑	☐	994	1041	1079	1052
Minor Street (Higher Volume Approach)				75	84	97	88

Satisfied: ☑ **Yes** ☐ **No**

Calculated By: DCC Date: 11/05/25

Checked By: DC Date: 11/07/25

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBTraffic.com
info@JLBTraffic.com

516 W Shaw Ave., Ste 103
Fresno, CA 93704
(559) 570-8991

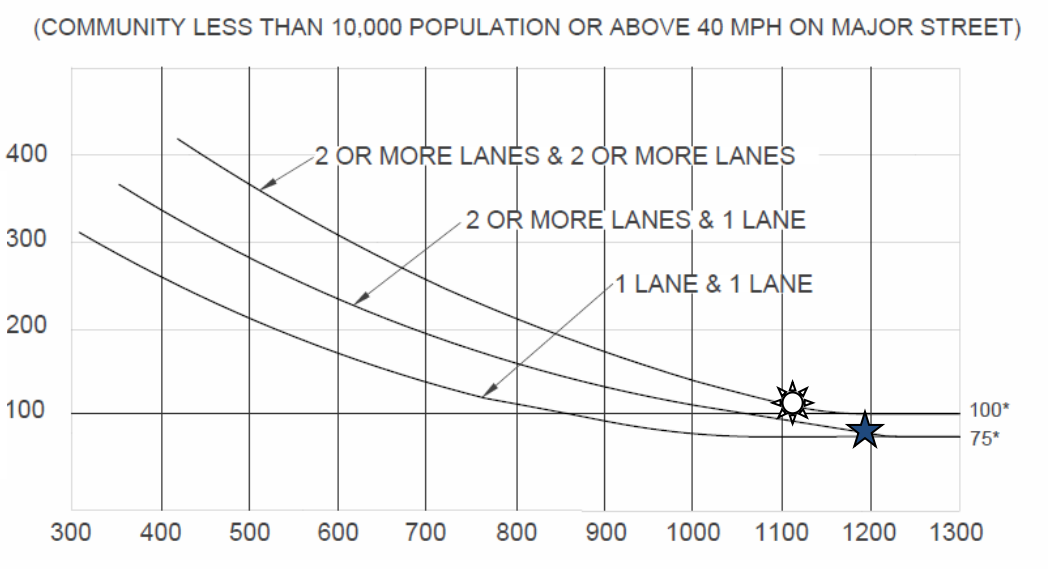
Warrant 3: Peak Hour (Rural)

Opening Year plus Phase 1 Traffic Conditions
5. Lovers Lane / Sunnyside Avenue
AM (PM) Peak Hour

Sunnyside Avenue

Highest Approach Volume =

117 (82) VPH



Lovers Lane Total of Both Approaches =

1121 (1195) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Met

PM Peak Hour – Signal Warrant is Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103

Fresno, CA 93704

(559) 570-8991

California MUTCD 2014 Edition

(FHWA'S MUTCD 2009 Edition, as amended for use in California)

Signal Warrant Analysis

Opening Year plus Phase 1 Traffic Conditions

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

DIST	CO	RTE	KPM
006	Fresno	N/A	N/A

COUNT DATE 09/09/25

CALC DCC DATE 11/05/25

CHK DC DATE 11/07/25

Major St: **Pinkham Street**

Minor St: **Caldwell Avenue**

Critical Approach Speed 40 MPH

Critical speed of major street traffic > 64 km/h (40 mph)..... ☑

In built up area of isolated community of < 10,000 population ..... ☐

or } RURAL (R)

☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

SATISFIED YES ☐ NO ☑

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume

100% SATISFIED YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	11:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	Hour
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	711	711	729	698	745	826	785	796	
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	42	42	42	49	64	72	63	54	

Condition B - Interruption of Continuous Traffic

100% SATISFIED YES ☐ NO ☑

80 % SATISFIED YES ☑ NO ☐

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	11:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	Hour
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	711	711	729	698	745	826	785	796	
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	42	42	42	49	64	72	63	54	

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Combination of Conditions A & B

SATISFIED YES ☐ NO ☑

REQUIREMENT	WARRANT		FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☑
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

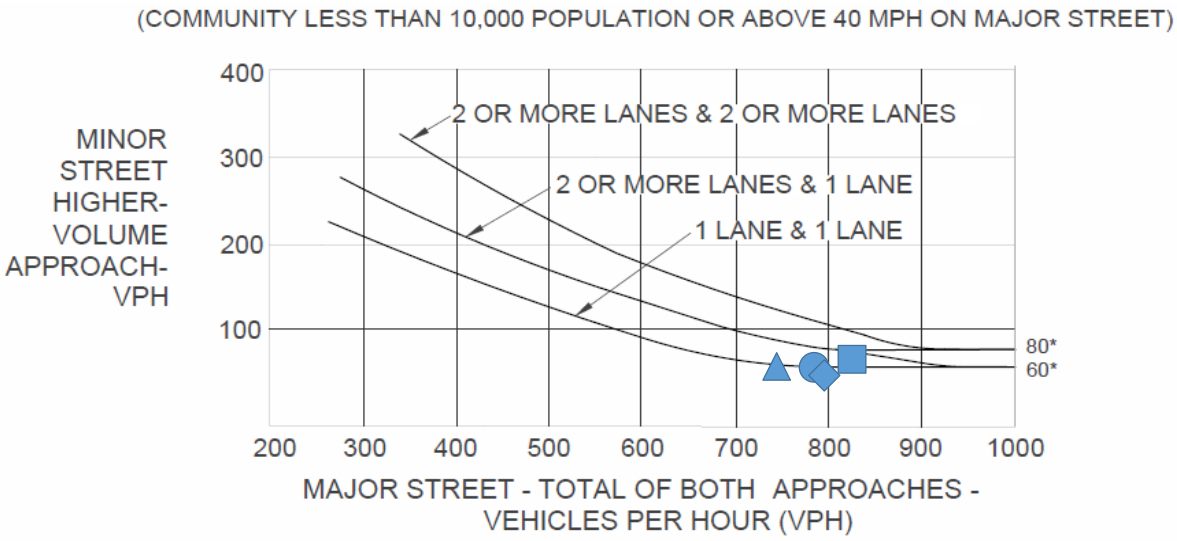
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570 - 8991

Warrant 2: Four-Hour Vehicular Volume (Rural)

Opening Year plus Phase 1 Traffic Conditions

10. Pinkham Street / Caldwell Avenue



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor street approach with one lane.

	1 Lane & 1 Lane	2 or More Lanes & 1 Lane	2 or More Lanes & 2 or More Lanes	2:00 PM Volume	3:00 PM Volume	4:00 PM Volume	5:00 PM Volume
Major Street (Total of Both Approaches)	☑	☐	☐	745	826	785	796
Minor Street (Higher Volume Approach)				64	72	63	54

Satisfied: ☐ **Yes** ☑ **No**

Calculated By: DCC Date: 11/05/25

Checked By: DC Date: 11/07/25

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBTraffic.com
info@JLBTraffic.com

516 W Shaw Ave., Ste 103
Fresno, CA 93704
(559) 570-8991

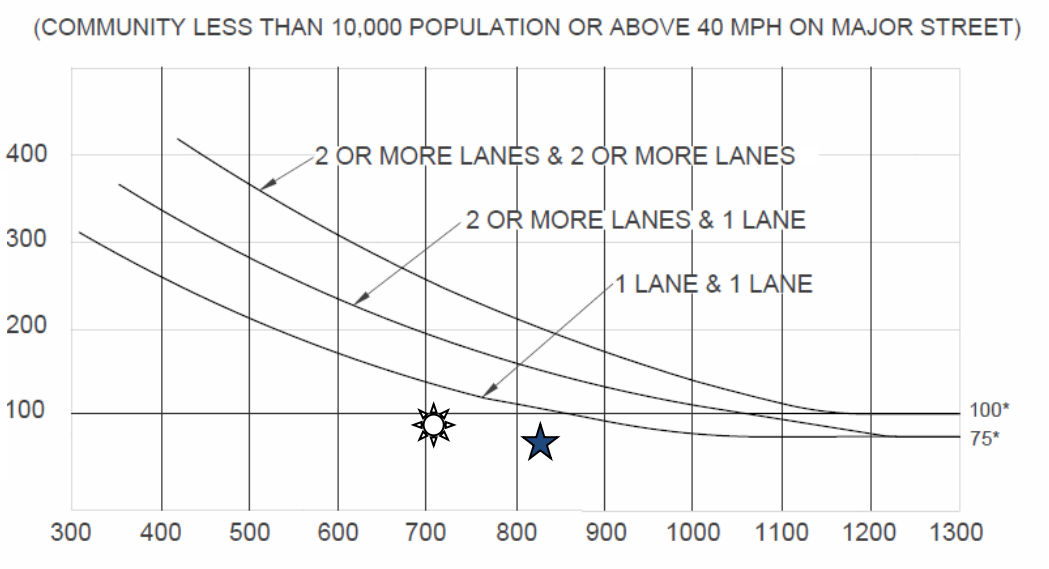
Warrant 3: Peak Hour (Rural)

Opening Year plus Phase 1 Traffic Conditions
10. Pinkham Street / Caldwell Avenue
AM (PM) Peak Hour

Pinkham Street

Highest Approach Volume =

86 (68) VPH



Caldwell Avenue Total of Both Approaches =

710 (830) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103

Fresno, CA 93704

(559) 570-8991

California MUTCD 2014 Edition

(FHWA'S MUTCD 2009 Edition, as amended for use in California)

Signal Warrant Analysis

Opening Year plus Phase 1 Traffic Conditions

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

DIST	CO	RTE	KPM
006	Fresno	N/A	N/A

COUNT DATE 10/28/25

CALC DCC DATE 11/24/25

CHK MA DATE 11/24/25

Major St: **Road 148**

Minor St: **Caldwell Avenue**

Critical Approach Speed 40 MPH

Critical speed of major street traffic > 64 km/h (40 mph)..... ☑

In built up area of isolated community of < 10,000 population ..... ☐

or } RURAL (R)

☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

SATISFIED YES ☐ NO ☑

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume **100% SATISFIED** YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	Hour
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	564	537	593	651	642	806	750	737	
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	96	83	38	45	30	105	76	81	

Condition B - Interruption of Continuous Traffic **100% SATISFIED** YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	Hour
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	564	537	593	651	642	806	750	737	
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	96	83	38	45	30	105	76	81	

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Combination of Conditions A & B **SATISFIED** YES ☐ NO ☑

REQUIREMENT	WARRANT		FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☑
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

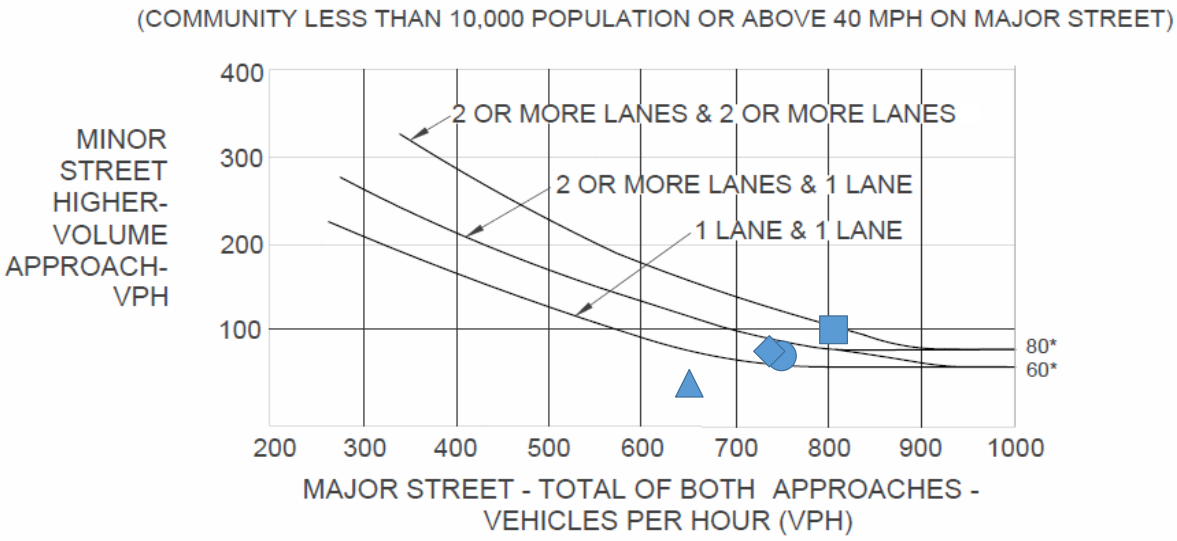
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570 - 8991

Warrant 2: Four-Hour Vehicular Volume (Rural)

Opening Year plus Phase 1 Traffic Conditions

12. Road 148 / Caldwell Avenue



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor street approach with one lane.

	1 Lane & 1 Lane	2 or More Lanes & 1 Lane	2 or More Lanes & 2 or More Lanes	1:00 PM Volume	3:00 PM Volume	4:00 PM Volume	5:00 PM Volume
Major Street (Total of Both Approaches)	☑	☐	☐	651	806	750	737
Minor Street (Higher Volume Approach)				45	105	76	81

Satisfied: ☐ **Yes** ☑ **No**

Calculated By: DCC Date: 11/24/25

Checked By: MA Date: 11/24/25

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

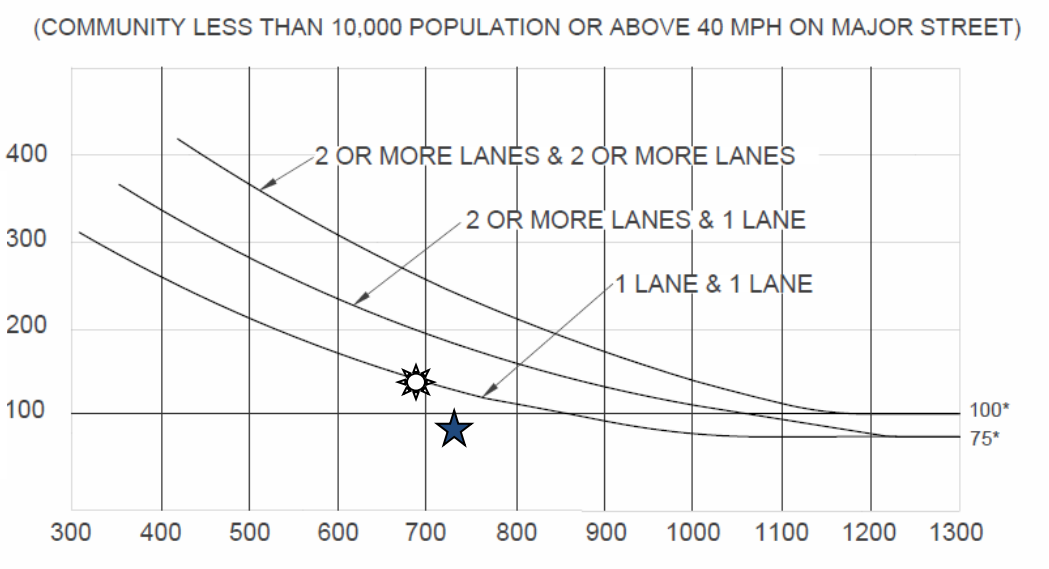
www.JLBTraffic.com
info@JLBTraffic.com

516 W Shaw Ave., Ste 103
Fresno, CA 93704
(559) 570-8991

Warrant 3: Peak Hour (Rural)

Opening Year plus Phase 1 Traffic Conditions
12. Road 148 / Caldwell Avenue
AM (PM) Peak Hour

Road 148
Highest Approach Volume =
140 (82) VPH



Caldwell Avenue Total of Both Approaches =

695 (736) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570-8991

California MUTCD 2014 Edition

(FHWA'S MUTCD 2009 Edition, as amended for use in California)

Signal Warrant Analysis

Cumulative 5-Year No Project Traffic Conditions

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

DIST	CO	RTE	KPM
006	Fresno	N/A	N/A

COUNT DATE 09/09/25

CALC DCC DATE 11/05/25

CHK DC DATE 11/05/25

Major St: **Pinkham Street**

Minor St: **K Avenue**

Critical Approach Speed 40 MPH

Critical speed of major street traffic > 64 km/h (40 mph)..... ☑

In built up area of isolated community of < 10,000 population ..... ☐

or } RURAL (R)

☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

SATISFIED YES ☐ NO ☑

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume

100% SATISFIED YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	12:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	Hour
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	330	222	190	310	251	260	284	190	
					330	222	190	310	251	260	284	190	
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	163	118	96	130	137	167	171	105	
					163	118	96	130	137	167	171	105	

Condition B - Interruption of Continuous Traffic

100% SATISFIED YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	12:00 PM	2:00 PM	3:00 PM	12:00 AM	5:00 PM	6:00 PM	Hour
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	330	222	190	310	251	260	284	190	
					330	222	190	310	251	260	284	190	
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	163	118	96	130	137	167	171	105	
					163	118	96	130	137	167	171	105	

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Combination of Conditions A & B **SATISFIED** YES ☐ NO ☑

REQUIREMENT	WARRANT		FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☑
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

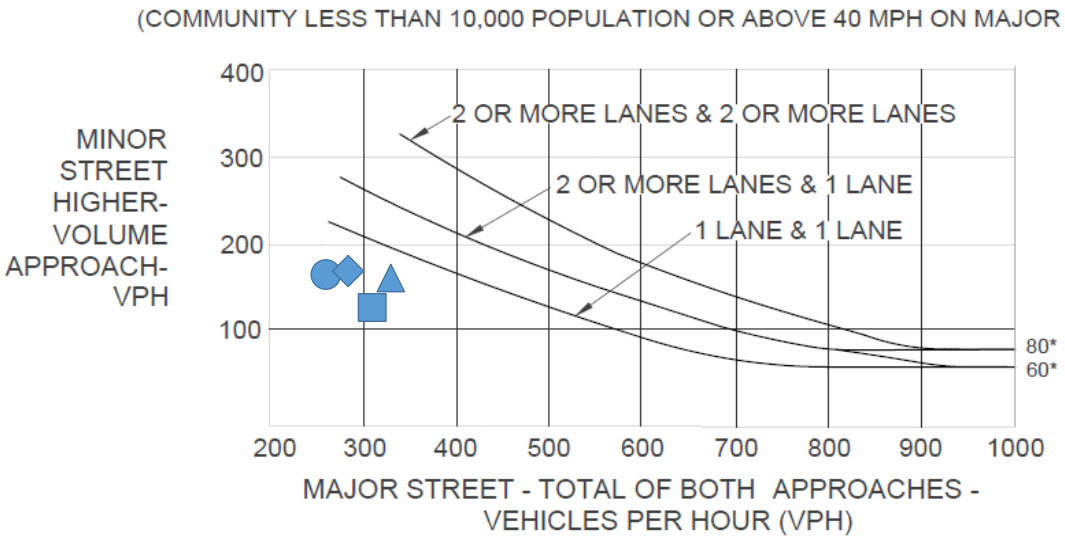
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570 - 8991

Warrant 2: Four-Hour Vehicular Volume (Rural)

Cumulative 5-Year No Project Traffic Conditions

2. Pinkham Street / K Avenue



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor street approach with one lane.

	1 Lane & 1 Lane	2 or More Lanes & 1 Lane	2 or More Lanes & 2 or More Lanes	7:00 AM Volume	2:00 PM Volume	4:00 PM Volume	5:00 PM Volume
Major Street (Total of Both Approaches)	☑	☐	☐	330	310	260	284
Minor Street (Higher Volume Approach)				163	130	167	171

Satisfied: ☐ **Yes** ☑ **No**

Calculated By: DCC Date: 11/05/25

Checked By: DC Date: 11/05/25

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

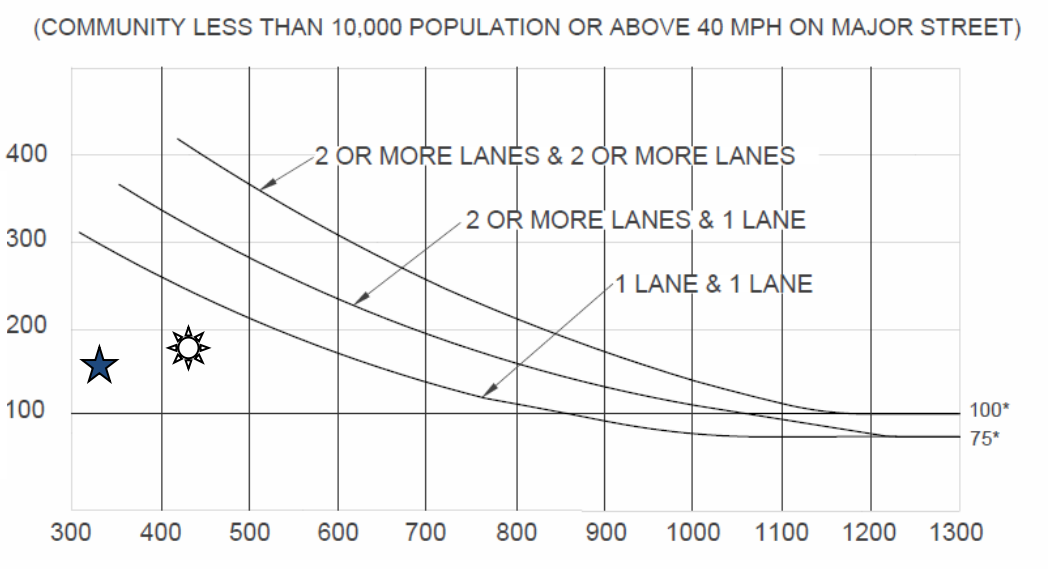
www.JLBTraffic.com
info@JLBTraffic.com

516 W Shaw Ave., Ste 103
Fresno, CA 93704
(559) 570-8991

Warrant 3: Peak Hour (Rural)

Cumulative 5-Year No Project Traffic Conditions
2. Pinkham Street / K Avenue
AM (PM) Peak Hour

K Avenue Highest Approach Volume = 182 (168) VPH



Pinkham Street Total of Both Approaches =

437 (343) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103

Fresno, CA 93704

(559) 570-8991

California MUTCD 2014 Edition

(FHWA'S MUTCD 2009 Edition, as amended for use in California)

Signal Warrant Analysis

Cumulative 5-Year No Project Traffic Conditions

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

DIST	CO	RTE	KPM
006	Fresno	N/A	N/A

COUNT DATE 09/09/25

CALC DCC DATE 11/05/25

CHK DC DATE 11/07/25

Major St: **Lovers Lane** Critical Approach Speed 40 MPH

Minor St: **K Avenue**

Critical speed of major street traffic > 64 km/h (40 mph)..... ☑ RURAL (R)

In built up area of isolated community of < 10,000 population ..... or ☐ RURAL (R)

☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

SATISFIED YES ☐ NO ☑

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume **100% SATISFIED** YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) U (1)	R (1)	U (2 or More)	R (2 or More)	7:00 AM	8:00 AM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	Hour
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	952	819	757	900	996	1015	1016	669	
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	95	64	50	68	91	97	106	80	

Condition B - Interruption of Continuous Traffic **100% SATISFIED** YES ☐ NO ☑

80 % SATISFIED YES ☑ NO ☐

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) U (1)	R (1)	U (2 or More)	R (2 or More)	7:00 AM	8:00 AM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	Hour
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	952	819	757	900	996	1015	1016	669	
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	95	64	50	68	91	97	106	80	

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Combination of Conditions A & B **SATISFIED** YES ☐ NO ☑

REQUIREMENT	WARRANT		FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☑
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

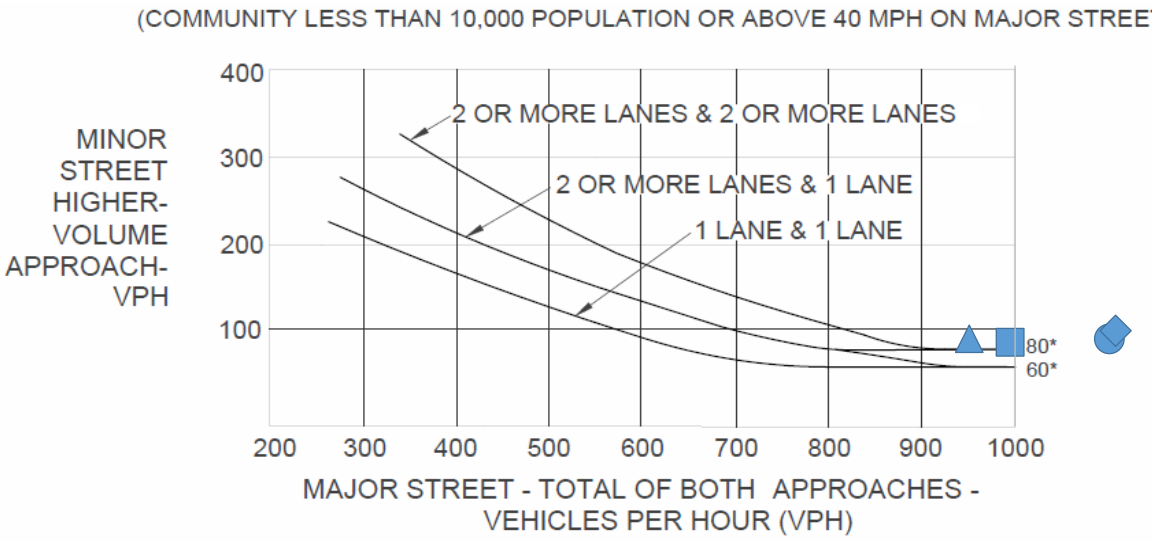
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570 - 8991

Warrant 2: Four-Hour Vehicular Volume (Rural)

Cumulative 5-Year No Project Traffic Conditions

3. Lovers Lane / K Avenue



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor street approach with one lane.

	1 Lane & 1 Lane	2 or More Lanes & 1 Lane	2 or More Lanes & 2 or More Lanes	7:00 AM Volume	3:00 PM Volume	4:00 PM Volume	5:00 PM Volume
Major Street (Total of Both Approaches)	☐	☑	☐	952	996	1015	1016
Minor Street (Higher Volume Approach)				95	91	97	106

Satisfied: ☑ **Yes** ☐ **No**

Calculated By: DCC Date: 11/05/25

Checked By: DC Date: 11/07/25

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

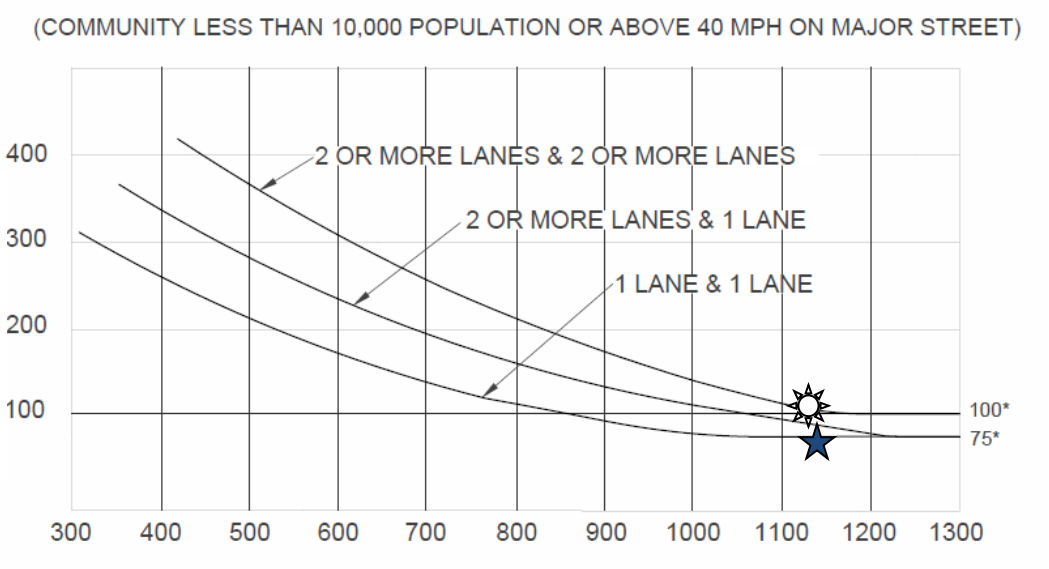
www.JLBTraffic.com
info@JLBTraffic.com

516 W Shaw Ave., Ste 103
Fresno, CA 93704
(559) 570-8991

Warrant 3: Peak Hour (Rural)

Cumulative 5-Year No Project Traffic Conditions
3. Lovers Lane / K Avenue
AM (PM) Peak Hour

K Avenue Highest Approach Volume = 106 (73) VPH



Lovers Lane Total of Both Approaches =

1133 (1138) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103

Fresno, CA 93704

(559) 570-8991

California MUTCD 2014 Edition

(FHWA'S MUTCD 2009 Edition, as amended for use in California)

Signal Warrant Analysis

Cumulative 5-Year No Project Traffic Conditions

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

DIST	CO	RTE	KPM
006	Fresno	N/A	N/A

COUNT DATE 09/09/25

CALC DCC DATE 11/05/25

CHK DC DATE 11/07/25

Major St: **Lovers Lane** Critical Approach Speed 40 MPH

Minor St: **Sunnyside Avenue**

Critical speed of major street traffic > 64 km/h (40 mph)..... ☑ RURAL (R)

In built up area of isolated community of < 10,000 population ..... or ☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

SATISFIED YES ☐ NO ☑

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume **100% SATISFIED** YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	Hour
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	945	797	664	733	888	982	1005	989	
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	77	31	27	28	33	31	32	34	

Condition B - Interruption of Continuous Traffic **100% SATISFIED** YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	12:00 PM	1:00 PM	2:00 PM	12:00 AM	4:00 PM	5:00 PM	Hour
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	945	797	664	733	888	982	1005	989	
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	77	31	27	28	33	31	32	34	

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Combination of Conditions A & B **SATISFIED** YES ☐ NO ☑

REQUIREMENT	WARRANT		FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☑
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

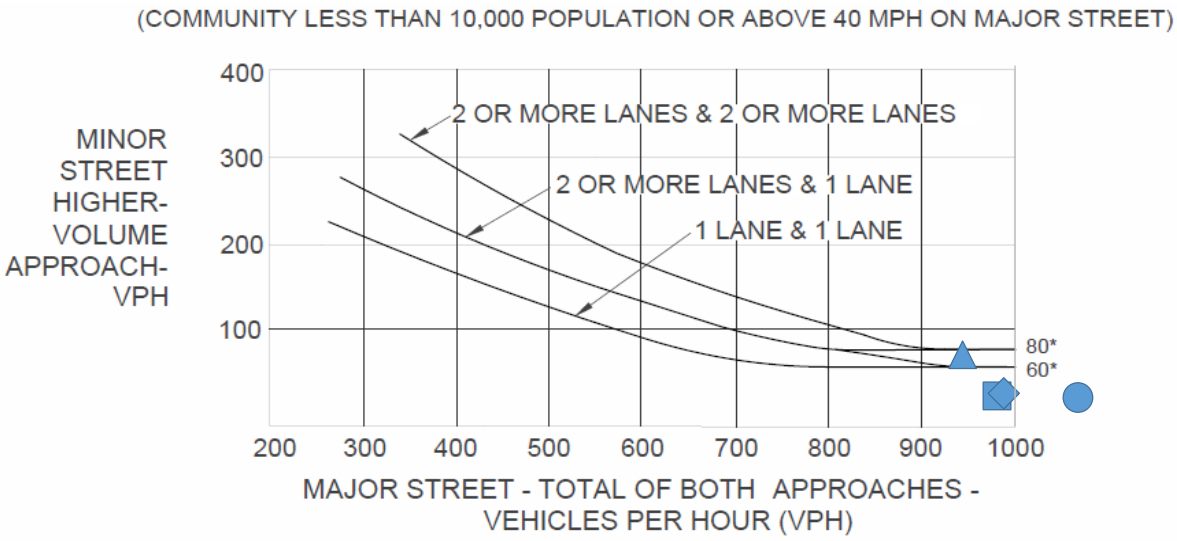
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570 - 8991

Warrant 2: Four-Hour Vehicular Volume (Rural)

Cumulative 5-Year No Project Traffic Conditions

5. Lovers Lane / Sunnyside Avenue



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor street approach with one lane.

	1 Lane & 1 Lane	2 or More Lanes & 1 Lane	2 or More Lanes & 2 or More Lanes	▲ 7:00 AM Volume	■ 3:00 PM Volume	● 4:00 PM Volume	◆ 5:00 PM Volume
Major Street (Total of Both Approaches)	☐	☑	☐	945	982	1005	989
Minor Street (Higher Volume Approach)				77	31	32	34

Satisfied: ☐ **Yes** ☑ **No**

Calculated By: DCC Date: 11/05/25

Checked By: DC Date: 11/07/25

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBTraffic.com
info@JLBTraffic.com

516 W Shaw Ave., Ste 103
Fresno, CA 93704
(559) 570-8991

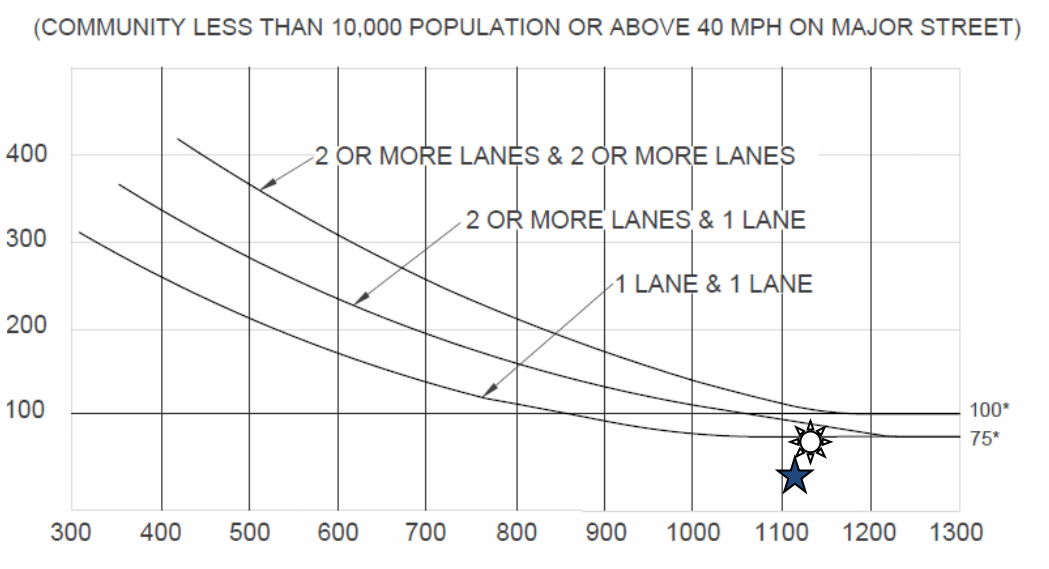
Warrant 3: Peak Hour (Rural)

Cumulative 5-Year No Project Traffic Conditions
5. Lovers Lane / Sunnyside Avenue
AM (PM) Peak Hour

Sunnyside Avenue

Highest Approach Volume =

72 (38) VPH



Lovers Lane Total of Both Approaches =

1138 (1121) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103

Fresno, CA 93704

(559) 570-8991

California MUTCD 2014 Edition

(FHWA'S MUTCD 2009 Edition, as amended for use in California)

Signal Warrant Analysis

Cumulative 5-Year No Project Traffic Conditions

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

DIST	CO	RTE	KPM
006	Fresno	N/A	N/A

COUNT DATE 09/09/25

CALC DCC DATE 11/05/25

CHK DC DATE 11/07/25

Major St: **Pinkham Street**

Minor St: **Caldwell Avenue**

Critical Approach Speed 40 MPH

Critical speed of major street traffic > 64 km/h (40 mph)..... ☑

In built up area of isolated community of < 10,000 population ..... ☐

or } RURAL (R)

☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

SATISFIED YES ☐ NO ☑

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume **100% SATISFIED** YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	Hour
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	764	781	745	793	879	828	844	741	
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	39	39	46	60	67	57	49	51	

Condition B - Interruption of Continuous Traffic **100% SATISFIED** YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	Hour
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	764	781	745	793	879	828	844	741	
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	39	39	46	60	67	57	49	51	

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Combination of Conditions A & B **SATISFIED** YES ☐ NO ☑

REQUIREMENT	WARRANT		FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☑
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

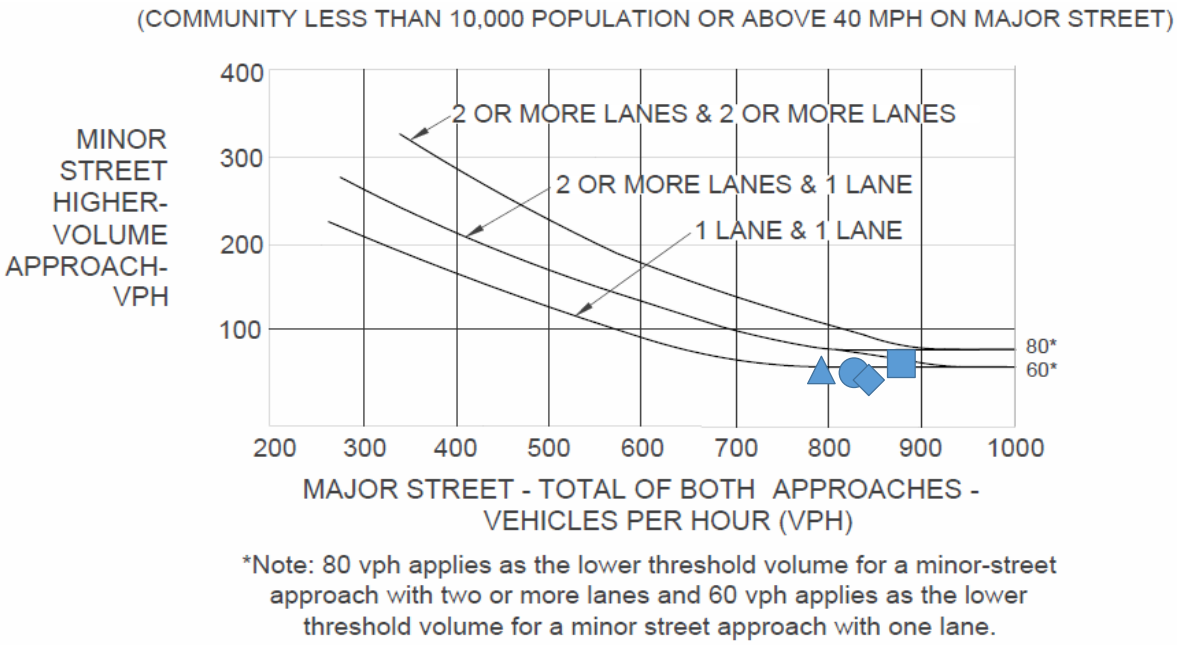
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570 - 8991

Warrant 2: Four-Hour Vehicular Volume (Rural)

Cumulative 5-Year No Project Traffic Conditions

10. Pinkham Street / Caldwell Avenue



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor street approach with one lane.

	1 Lane & 1 Lane	2 or More Lanes & 1 Lane	2 or More Lanes & 2 or More Lanes	▲ 2:00 PM Volume	■ 3:00 PM Volume	● 4:00 PM Volume	◆ 5:00 PM Volume
Major Street (Total of Both Approaches)	☑	☐	☐	793	879	828	844
Minor Street (Higher Volume Approach)				60	67	57	49

Satisfied: ☐ **Yes** ☑ **No**

Calculated By: DCC Date: 11/05/25

Checked By: DC Date: 11/07/25

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBTraffic.com
info@JLBTraffic.com

516 W Shaw Ave., Ste 103
Fresno, CA 93704
(559) 570-8991

Warrant 3: Peak Hour (Rural)

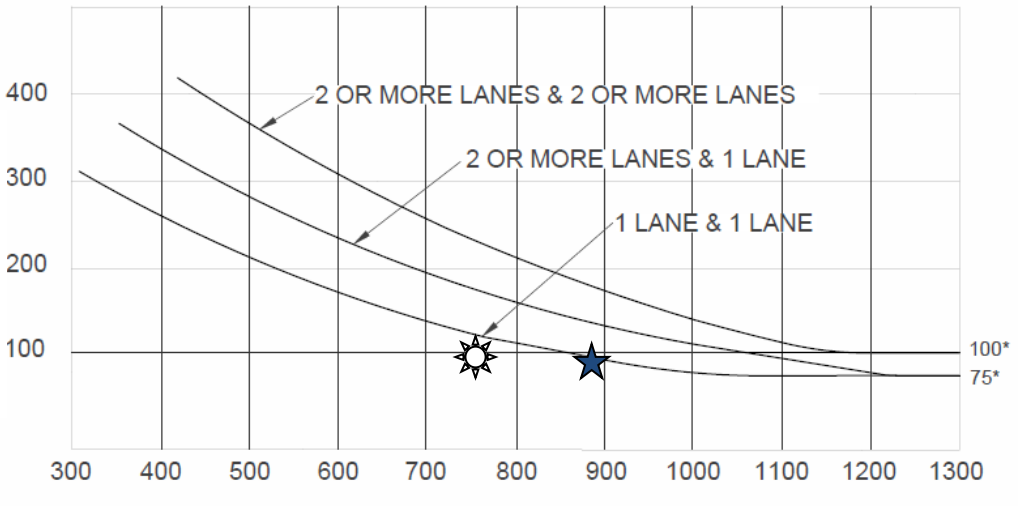
Cumulative 5-Year No Project Traffic Conditions
10. Pinkham Street / Caldwell Avenue
AM (PM) Peak Hour

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

Pinkham Street

Highest Approach Volume =

90 (85) VPH



Caldwell Avenue Total of Both Approaches =

761 (888) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103

Fresno, CA 93704

(559) 570-8991

California MUTCD 2014 Edition

(FHWA'S MUTCD 2009 Edition, as amended for use in California)

Signal Warrant Analysis

Cumulative 5-Year No Project Traffic Conditions

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

DIST	CO	RTE	KPM
006	Fresno	N/A	N/A

COUNT DATE 10/28/25

CALC DCC DATE 11/24/25

CHK MA DATE 11/24/25

Major St: **Road 148**

Minor St: **Caldwell Avenue**

Critical Approach Speed 40 MPH

Critical speed of major street traffic > 64 km/h (40 mph)..... ☑

In built up area of isolated community of < 10,000 population ..... ☐

or } RURAL (R)

☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

SATISFIED YES ☐ NO ☑

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume

100% SATISFIED YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	Hour
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	610	581	643	705	695	872	811	797	
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	133	115	52	61	42	146	106	113	

Condition B - Interruption of Continuous Traffic

100% SATISFIED YES ☐ NO ☑

80 % SATISFIED YES ☑ NO ☐

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	Hour
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	610	581	643	705	695	872	811	797	
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	133	115	52	61	42	146	106	113	

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Combination of Conditions A & B **SATISFIED** YES ☐ NO ☑

REQUIREMENT	WARRANT		FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☑
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

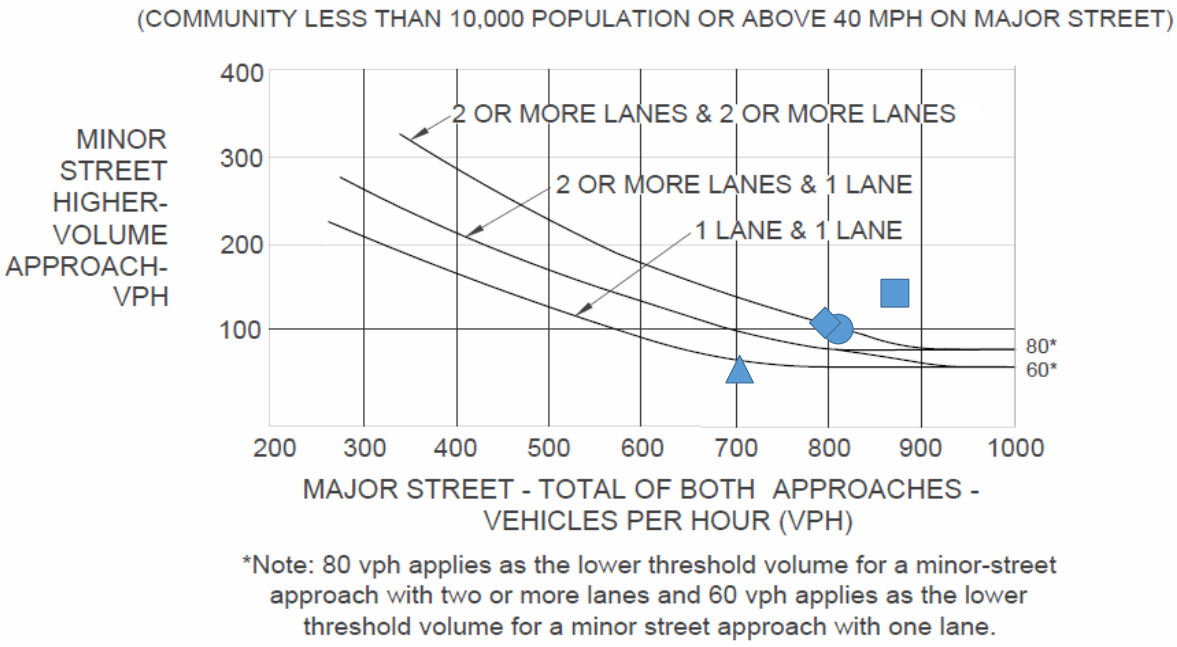
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570 - 8991

Warrant 2: Four-Hour Vehicular Volume (Rural)

Cumulative 5-Year No Project Traffic Conditions

12. Road 148 / Caldwell Avenue



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor street approach with one lane.

	1 Lane & 1 Lane	2 or More Lanes & 1 Lane	2 or More Lanes & 2 or More Lanes	1:00 PM Volume	3:00 PM Volume	4:00 PM Volume	5:00 PM Volume
Major Street (Total of Both Approaches)	☑	☐	☐	705	872	811	797
Minor Street (Higher Volume Approach)				61	146	106	113

Satisfied: ☐ **Yes** ☑ **No**

Calculated By: DCC Date: 11/24/25

Checked By: MA Date: 11/24/25

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

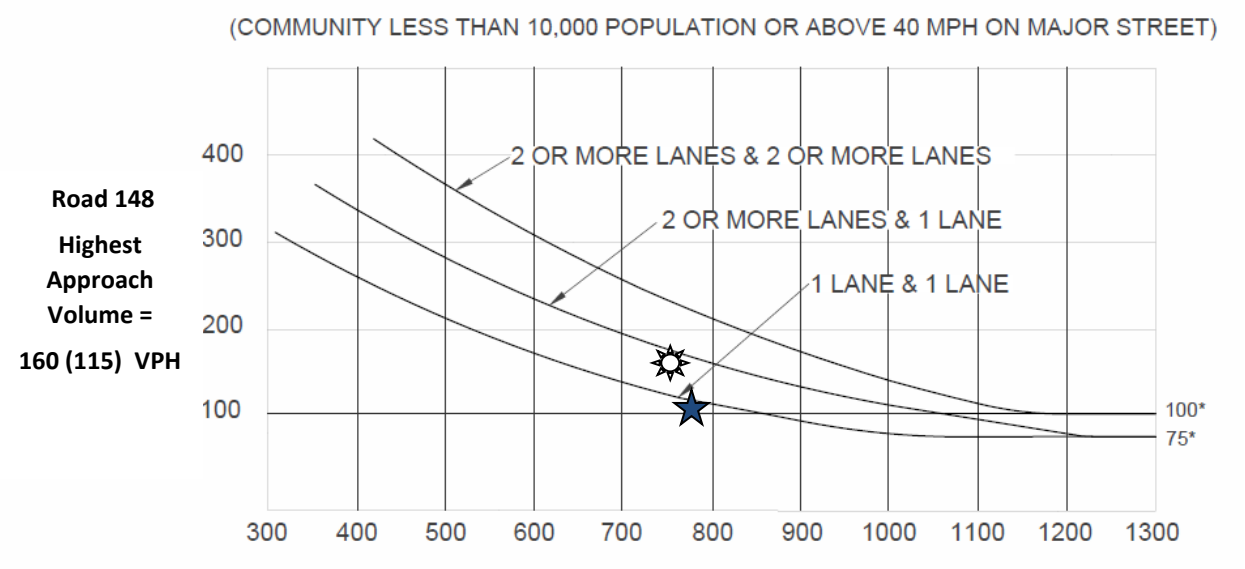
JLB TRAFFIC ENGINEERING, INC.

www.JLBTraffic.com
info@JLBTraffic.com

516 W Shaw Ave., Ste 103
Fresno, CA 93704
(559) 570-8991

Warrant 3: Peak Hour (Rural)

Cumulative 5-Year No Project Traffic Conditions
12. Road 148 / Caldwell Avenue
AM (PM) Peak Hour



Road 148
Highest Approach Volume =
160 (115) VPH

Caldwell Avenue Total of Both Approaches =

758 (779) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103

Fresno, CA 93704

(559) 570-8991

California MUTCD 2014 Edition

(FHWA'S MUTCD 2009 Edition, as amended for use in California)

Signal Warrant Analysis

Cumulative 5-Year plus Phase 1 Traffic Conditions

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

DIST	CO	RTE	KPM
006	Fresno	N/A	N/A

COUNT DATE 09/09/25

CALC DCC DATE 11/05/25

CHK DC DATE 11/05/25

Major St: **Pinkham Street**

Minor St: **K Avenue**

Critical Approach Speed 40 MPH

Critical speed of major street traffic > 64 km/h (40 mph)..... ☑

In built up area of isolated community of < 10,000 population ..... ☐

or } RURAL (R)

☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

SATISFIED YES ☐ NO ☑

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume

100% SATISFIED YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	12:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	337	231	196	317	267	277	296	204
					337	231	196	317	267	277	296	204
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	163	120	96	130	145	171	154	112
					163	120	96	130	145	171	154	112

Hour

Condition B - Interruption of Continuous Traffic

100% SATISFIED YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	12:00 PM	2:00 PM	3:00 PM	12:00 AM	5:00 PM	6:00 PM
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	337	231	196	317	267	277	296	204
					337	231	196	317	267	277	296	204
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	163	120	96	130	145	171	154	112
					163	120	96	130	145	171	154	112

Hour

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Combination of Conditions A & B

SATISFIED YES ☐ NO ☑

REQUIREMENT	WARRANT		FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☑
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

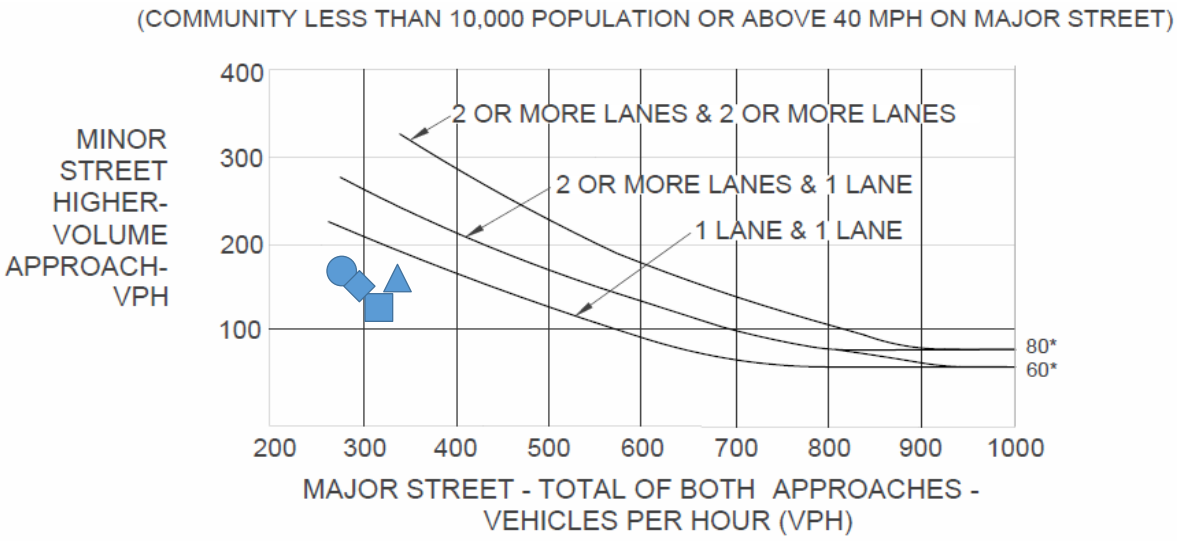
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570 - 8991

Warrant 2: Four-Hour Vehicular Volume (Rural)

Cumulative 5-Year plus Phase 1 Traffic Conditions

2. Pinkham Street / K Avenue



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor street approach with one lane.

	1 Lane & 1 Lane	2 or More Lanes & 1 Lane	2 or More Lanes & 2 or More Lanes	7:00 AM Volume	2:00 PM Volume	4:00 PM Volume	5:00 PM Volume
Major Street (Total of Both Approaches)	☑	☐	☐	337	317	277	296
Minor Street (Higher Volume Approach)				163	130	171	154

Satisfied: ☐ **Yes** ☑ **No**

Calculated By: DCC Date: 11/05/25

Checked By: DC Date: 11/05/25

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

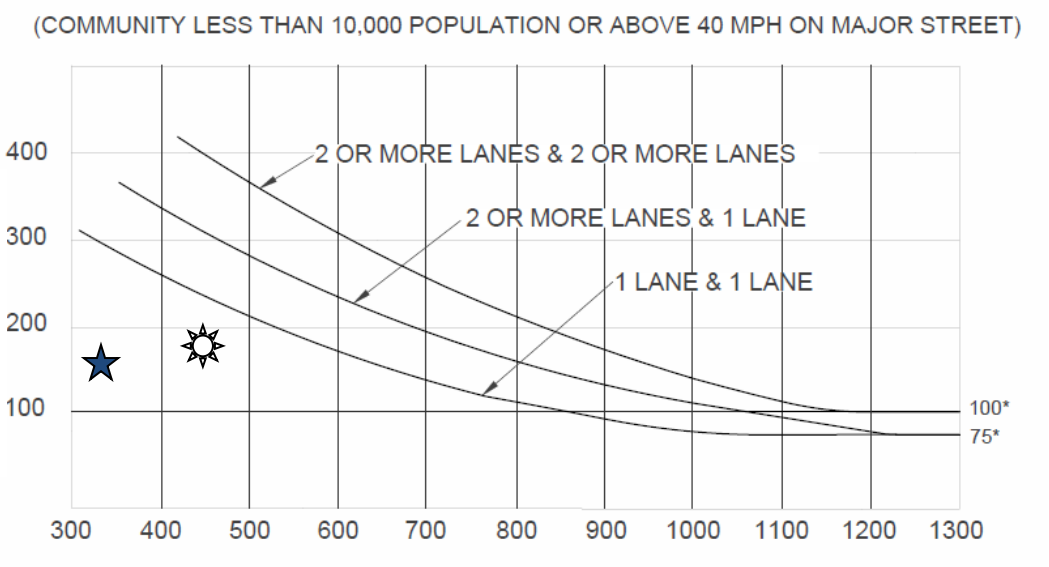
www.JLBTraffic.com
info@JLBTraffic.com

516 W Shaw Ave., Ste 103
Fresno, CA 93704
(559) 570-8991

Warrant 3: Peak Hour (Rural)

Cumulative 5-Year plus Phase 1 Traffic Conditions
2. Pinkham Street / K Avenue
AM (PM) Peak Hour

K Avenue Highest Approach Volume = 182 (168) VPH



Pinkham Street Total of Both Approaches =

452 (346) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570-8991

California MUTCD 2014 Edition

(FHWA'S MUTCD 2009 Edition, as amended for use in California)

Signal Warrant Analysis

Cumulative 5-Year plus Phase 1 Traffic Conditions

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

DIST	CO	RTE	KPM
006	Fresno	N/A	N/A

COUNT DATE 09/09/25

CALC DCC DATE 11/05/25

CHK DC DATE 11/07/25

Major St: **Lovers Lane** Critical Approach Speed 40 MPH

Minor St: **K Avenue**

Critical speed of major street traffic > 64 km/h (40 mph)..... ☑ RURAL (R)

In built up area of isolated community of < 10,000 population ..... or ☐ RURAL (R)

☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

SATISFIED YES ☐ NO ☑

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume **100% SATISFIED** YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	Hour
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	1061	919	848	1007	1117	1156	1144	779	
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	96	65	51	69	93	99	108	82	

Condition B - Interruption of Continuous Traffic **100% SATISFIED** YES ☐ NO ☑

80 % SATISFIED YES ☑ NO ☐

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	Hour
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	1061	919	848	1007	1117	1156	1144	779	
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	96	65	51	69	93	99	108	82	

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Combination of Conditions A & B **SATISFIED** YES ☐ NO ☑

REQUIREMENT	WARRANT		FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☑
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

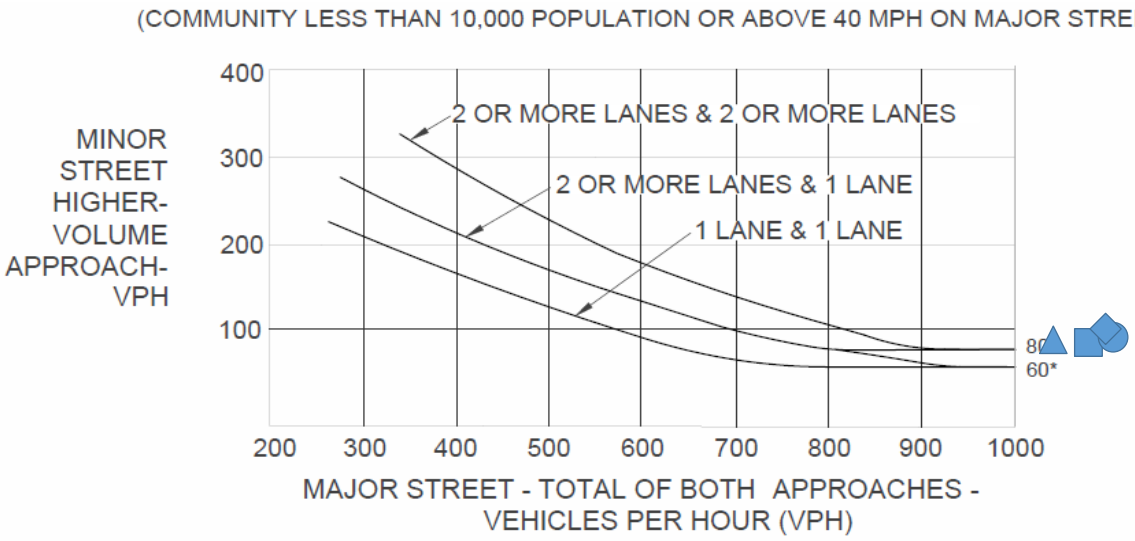
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570 - 8991

Warrant 2: Four-Hour Vehicular Volume (Rural)

Cumulative 5-Year plus Phase 1 Traffic Conditions

3. Lovers Lane / K Avenue



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor street approach with one lane.

	1 Lane & 1 Lane	2 or More Lanes & 1 Lane	2 or More Lanes & 2 or More Lanes	7:00 AM Volume	3:00 PM Volume	4:00 PM Volume	5:00 PM Volume
Major Street (Total of Both Approaches)	☐	☑	☐	1061	1117	1156	1144
Minor Street (Higher Volume Approach)				96	93	99	108

Satisfied: ☑ **Yes** ☐ **No**

Calculated By: DCC Date: 11/05/25
Checked By: DC Date: 11/07/25

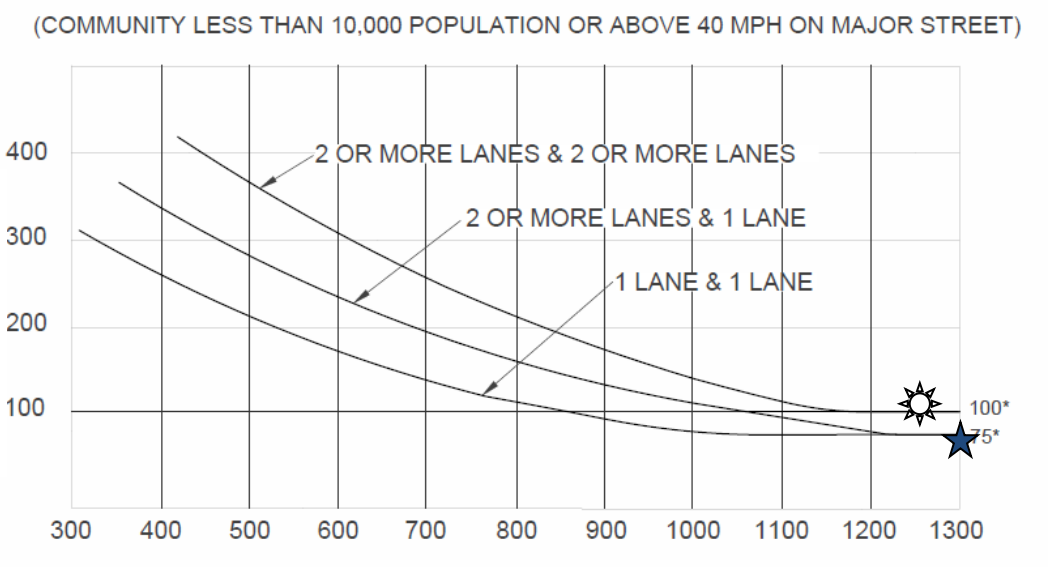
Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.
www.JLBTraffic.com
info@JLBTraffic.com
516 W Shaw Ave., Ste 103
Fresno, CA 93704
(559) 570-8991

Warrant 3: Peak Hour (Rural)

Cumulative 5-Year plus Phase 1 Traffic Conditions
3. Lovers Lane / K Avenue
AM (PM) Peak Hour

K Avenue Highest Approach Volume = 109 (74) VPH



Lovers Lane Total of Both Approaches =

1259 (1300) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103

Fresno, CA 93704

(559) 570-8991

California MUTCD 2014 Edition

(FHWA'S MUTCD 2009 Edition, as amended for use in California)

Signal Warrant Analysis

Cumulative 5-Year plus Phase 1 Traffic Conditions

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

006	Fresno	N/A	N/A
DIST	CO	RTE	KPM

COUNT DATE 09/09/25

CALC DCC DATE 11/05/25

CHK DC DATE 11/07/25

Major St: **Lovers Lane**

Minor St: **Sunnyside Avenue**

Critical Approach Speed 40 MPH

Critical speed of major street traffic > 64 km/h (40 mph)..... ☑

In built up area of isolated community of < 10,000 population ..... ☐

or } RURAL (R)

URBAN (U) ☐

WARRANT 1 - Eight Hour Vehicular Volume

SATISFIED YES ☑ NO ☐

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume

100% SATISFIED YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	1038	882	811	979	1086	1125	1098	738
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	77	69	63	74	84	97	88	77

Hour

Condition B - Interruption of Continuous Traffic

100% SATISFIED YES ☑ NO ☐

80 % SATISFIED YES ☑ NO ☐

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	1:00 PM	2:00 PM	3:00 PM	12:00 AM	5:00 PM	6:00 PM
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	1038	882	811	979	1086	1125	1098	738
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	77	69	63	74	84	97	88	77

Hour

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Combination of Conditions A & B

SATISFIED YES ☐ NO ☑

REQUIREMENT	WARRANT		FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☑
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

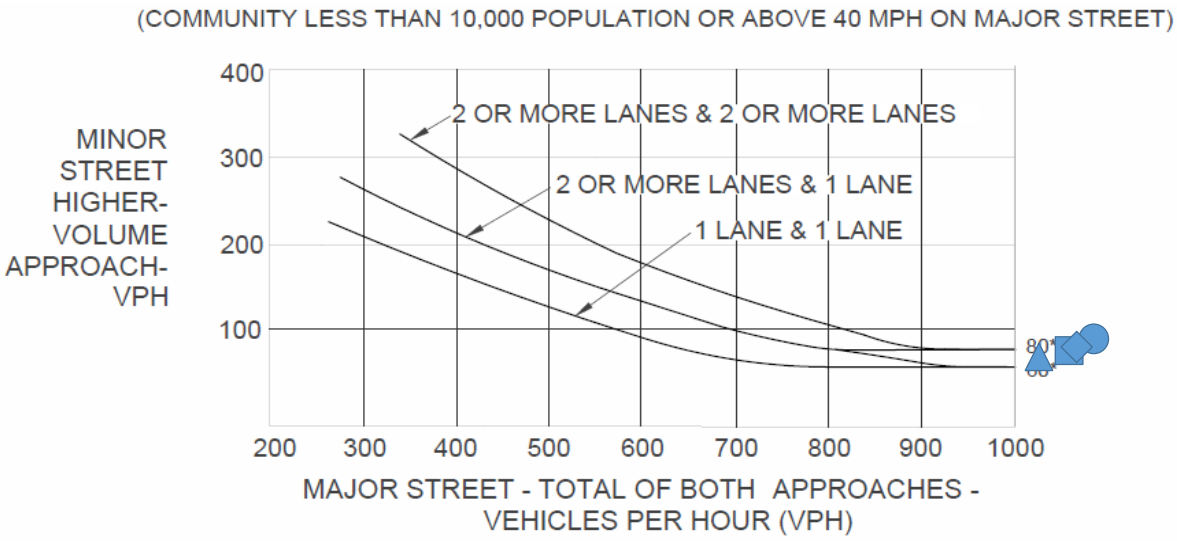
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570 - 8991

Warrant 2: Four-Hour Vehicular Volume (Rural)

Cumulative 5-Year plus Phase 1 Traffic Conditions

5. Lovers Lane / Sunnyside Avenue



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor street approach with one lane.

	1 Lane & 1 Lane	2 or More Lanes & 1 Lane	2 or More Lanes & 2 or More Lanes	7:00 AM Volume	3:00 PM Volume	4:00 PM Volume	5:00 PM Volume
Major Street (Total of Both Approaches)	☐	☑	☐	1038	1086	1125	1098
Minor Street (Higher Volume Approach)				77	84	97	88

Satisfied: ☑ **Yes** ☐ **No**

Calculated By: DCC Date: 11/05/25
Checked By: DC Date: 11/07/25

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.
www.JLBTraffic.com
info@JLBTraffic.com
516 W Shaw Ave., Ste 103
Fresno, CA 93704
(559) 570-8991

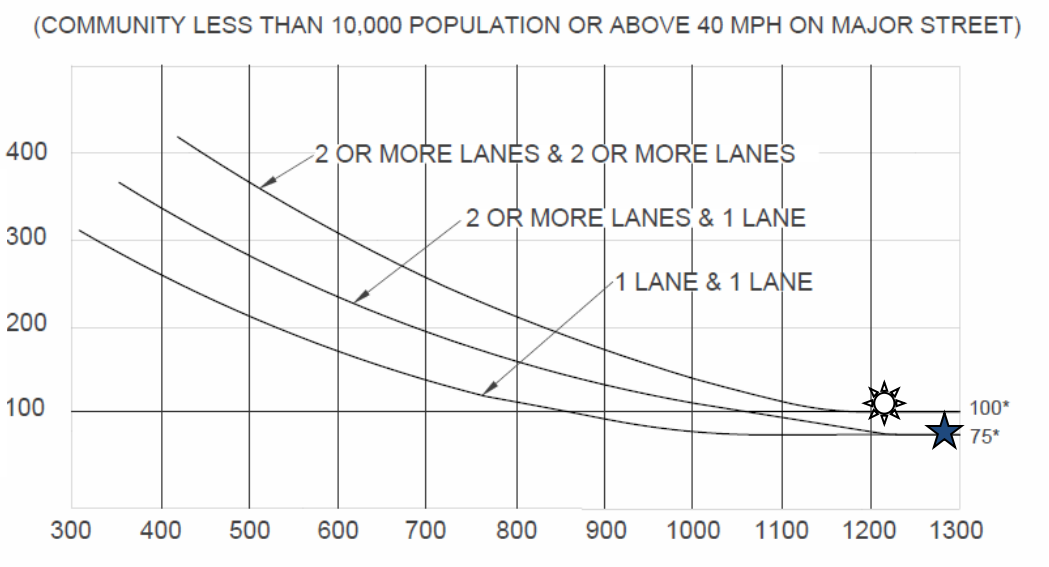
Warrant 3: Peak Hour (Rural)

Cumulative 5-Year plus Phase 1 Traffic Conditions
5. Lovers Lane / Sunnyside Avenue
AM (PM) Peak Hour

Sunnyside Avenue

Highest Approach Volume =

117 (82) VPH



Lovers Lane Total of Both Approaches =

1217 (1288) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Met

PM Peak Hour – Signal Warrant is Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103

Fresno, CA 93704

(559) 570-8991

California MUTCD 2014 Edition

(FHWA'S MUTCD 2009 Edition, as amended for use in California)

Signal Warrant Analysis

Cumulative 5-Year plus Phase 1 Traffic Conditions

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

DIST	CO	RTE	KPM
006	Fresno	N/A	N/A

COUNT DATE 09/09/25

CALC DCC DATE 11/05/25

CHK DC DATE 11/07/25

Major St: **Pinkham Street**

Minor St: **Caldwell Avenue**

Critical Approach Speed 40 MPH

Critical speed of major street traffic > 64 km/h (40 mph)..... ☑

In built up area of isolated community of < 10,000 population ..... ☐

or } RURAL (R)

☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

SATISFIED YES ☐ NO ☑

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume

100% SATISFIED YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	Hour
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	787	805	770	822	912	867	879	771	
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	43	43	50	65	73	64	55	56	

Condition B - Interruption of Continuous Traffic

100% SATISFIED YES ☐ NO ☑

80 % SATISFIED YES ☑ NO ☐

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	Hour
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	787	805	770	822	912	867	879	771	
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	43	43	50	65	73	64	55	56	

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Combination of Conditions A & B **SATISFIED** YES ☐ NO ☑

REQUIREMENT	WARRANT		FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☑
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

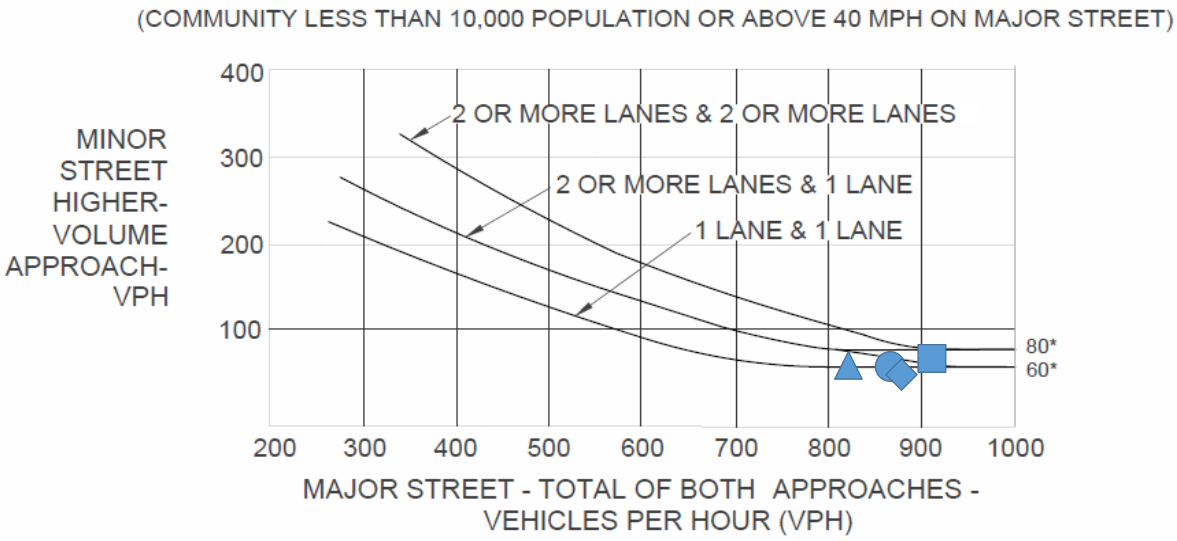
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570 - 8991

Warrant 2: Four-Hour Vehicular Volume (Rural)

Cumulative 5-Year plus Phase 1 Traffic Conditions

10. Pinkham Street / Caldwell Avenue



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor street approach with one lane.

	1 Lane & 1 Lane	2 or More Lanes & 1 Lane	2 or More Lanes & 2 or More Lanes	2:00 PM Volume	3:00 PM Volume	4:00 PM Volume	5:00 PM Volume
Major Street (Total of Both Approaches)	☑	☐	☐	822	912	867	879
Minor Street (Higher Volume Approach)				65	73	64	55

Satisfied: ☐ **Yes** ☑ **No**

Calculated By: DCC Date: 11/05/25

Checked By: DC Date: 11/07/25

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

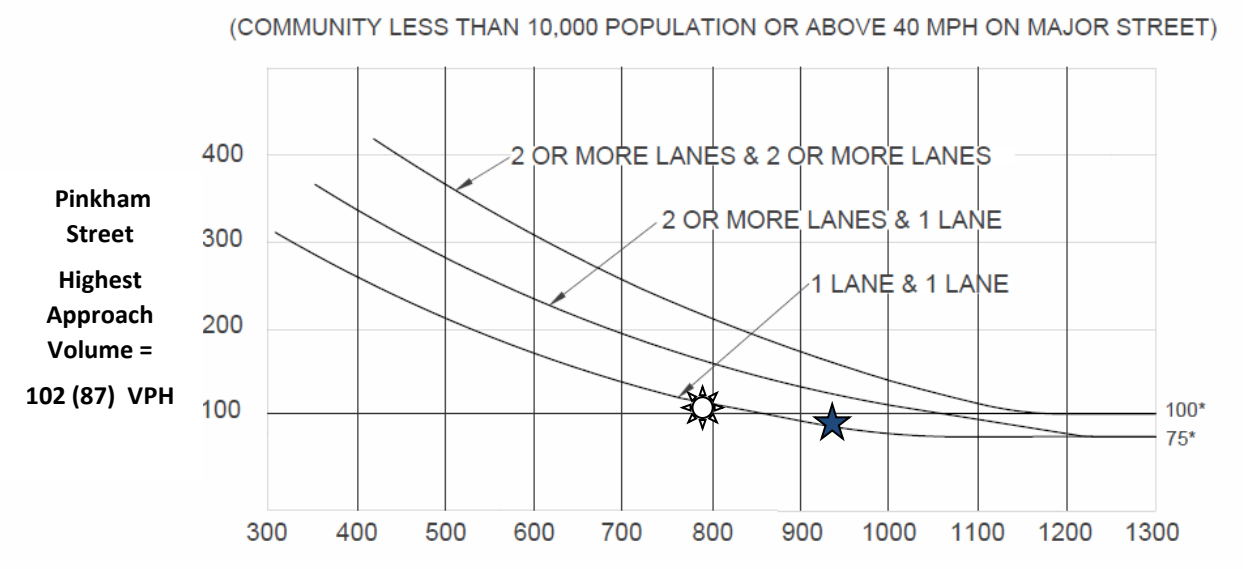
JLB TRAFFIC ENGINEERING, INC.

www.JLBTraffic.com
info@JLBTraffic.com

516 W Shaw Ave., Ste 103
Fresno, CA 93704
(559) 570-8991

Warrant 3: Peak Hour (Rural)

Cumulative 5-Year plus Phase 1 Traffic Conditions
10. Pinkham Street / Caldwell Avenue
AM (PM) Peak Hour



Pinkham Street

Highest Approach Volume =

102 (87) VPH

Caldwell Avenue Total of Both Approaches =

792 (936) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570-8991

www.JLBtraffic.com
info@JLBtraffic.com

California MUTCD 2014 Edition

(FHWA'S MUTCD 2009 Edition, as amended for use in California)

Signal Warrant Analysis

Cumulative 5-Year plus Phase 1 Traffic Conditions

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

DIST	CO	RTE	KPM
006	Fresno	N/A	N/A

COUNT DATE 10/28/25

CALC DCC DATE 11/24/25

CHK MA DATE 11/24/25

Major St: **Road 148**

Minor St: **Caldwell Avenue**

Critical Approach Speed 40 MPH

☑ Critical speed of major street traffic > 64 km/h (40 mph)..... or RURAL (R)

☐ In built up area of isolated community of < 10,000 population ..... RURAL (R)

☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

SATISFIED YES ☐ NO ☑

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume **100% SATISFIED** YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	Hour
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	614	585	646	708	699	877	816	802	
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	133	115	52	61	42	146	106	113	

Condition B - Interruption of Continuous Traffic **100% SATISFIED** YES ☐ NO ☑

80 % SATISFIED YES ☑ NO ☐

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	Hour
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	614	585	646	708	699	877	816	802	
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	133	115	52	61	42	146	106	113	

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Combination of Conditions A & B **SATISFIED** YES ☐ NO ☑

REQUIREMENT	WARRANT		FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☑
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

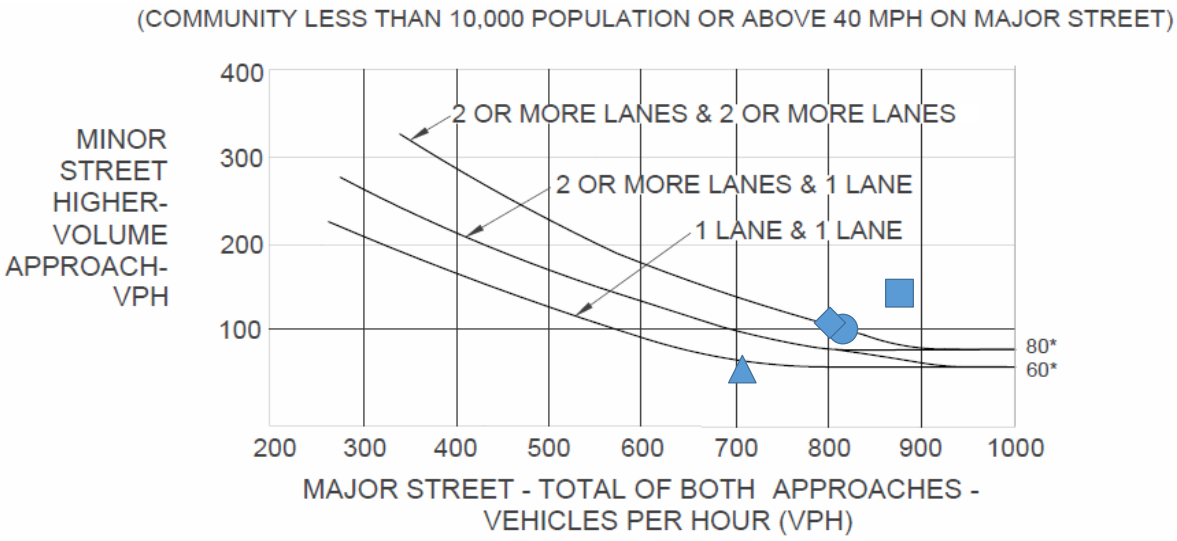
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570 - 8991

Warrant 2: Four-Hour Vehicular Volume (Rural)

Cumulative 5-Year plus Phase 1 Traffic Conditions

12. Road 148 / Caldwell Avenue



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor street approach with one lane.

	1 Lane & 1 Lane	2 or More Lanes & 1 Lane	2 or More Lanes & 2 or More Lanes	1:00 PM Volume	3:00 PM Volume	4:00 PM Volume	5:00 PM Volume
Major Street (Total of Both Approaches)	☑	☐	☐	708	877	816	802
Minor Street (Higher Volume Approach)				61	146	106	113

Satisfied: ☐ **Yes** ☑ **No**

Calculated By: DCC Date: 11/24/25

Checked By: MA Date: 11/24/25

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

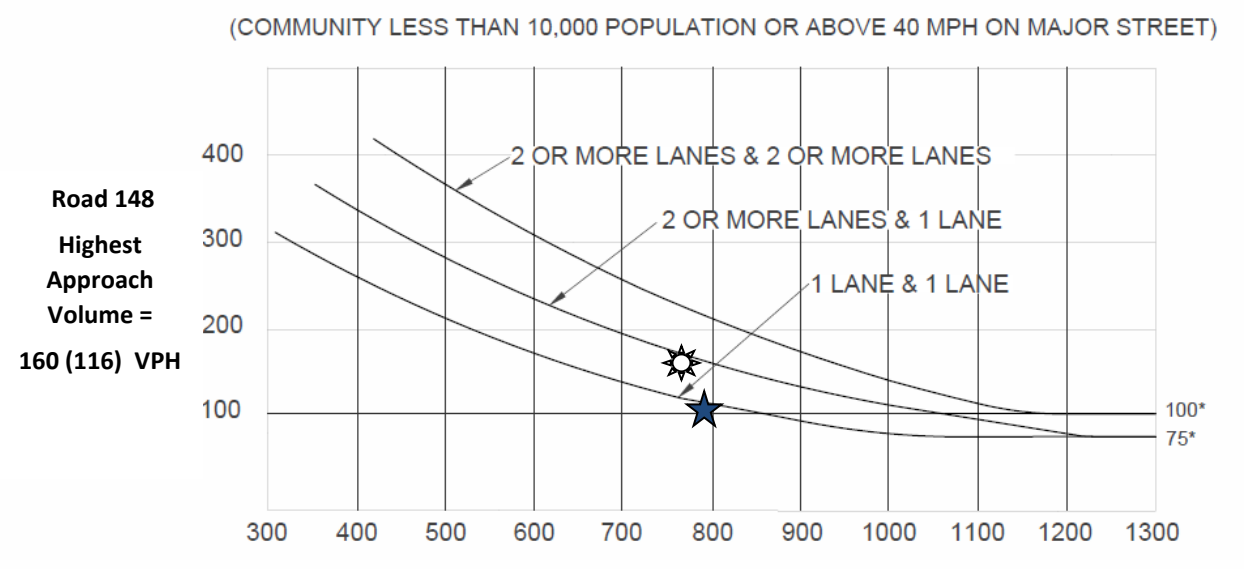
JLB TRAFFIC ENGINEERING, INC.

www.JLBTraffic.com
info@JLBTraffic.com

516 W Shaw Ave., Ste 103
Fresno, CA 93704
(559) 570-8991

Warrant 3: Peak Hour (Rural)

Cumulative 5-Year plus Phase 1 Traffic Conditions
12. Road 148 / Caldwell Avenue
AM (PM) Peak Hour



Road 148
Highest Approach Volume =
160 (116) VPH

Caldwell Avenue Total of Both Approaches =

771 (791) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Met
PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570-8991

California MUTCD 2014 Edition

(FHWA'S MUTCD 2009 Edition, as amended for use in California)

Signal Warrant Analysis

Cumulative 5-Year plus Buildout Traffic Conditions

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

DIST	CO	RTE	KPM
006	Fresno	N/A	N/A

COUNT DATE 09/09/25

CALC DCC DATE 11/05/25

CHK DC DATE 11/05/25

Major St: **Pinkham Street**

Minor St: **K Avenue**

Critical Approach Speed 40 MPH

☑ Critical speed of major street traffic > 64 km/h (40 mph)..... or RURAL (R)

☐ In built up area of isolated community of < 10,000 population ..... RURAL (R)

☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

SATISFIED YES ☐ NO ☑

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume **100% SATISFIED** YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	12:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	Hour
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	346	248	203	325	285	300	323	228	
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	163	120	99	130	154	182	167	124	

Condition B - Interruption of Continuous Traffic **100% SATISFIED** YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	12:00 PM	2:00 PM	3:00 PM	12:00 AM	5:00 PM	6:00 PM	Hour
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	346	248	203	325	285	300	323	228	
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	163	120	99	130	154	182	167	124	

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Combination of Conditions A & B **SATISFIED** YES ☐ NO ☑

REQUIREMENT	WARRANT		FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☑
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

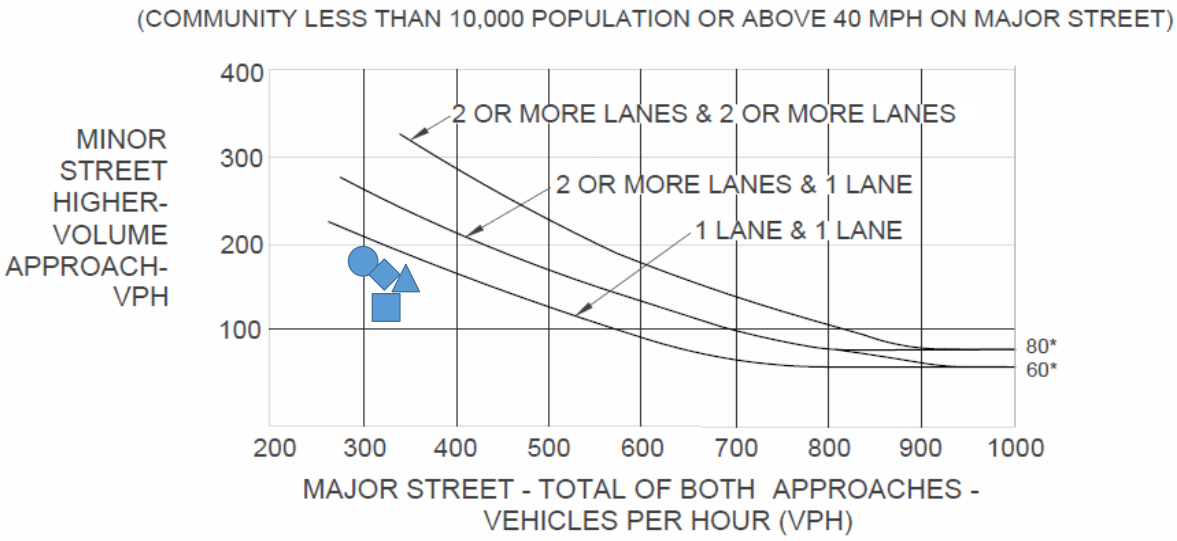
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570 - 8991

Warrant 2: Four-Hour Vehicular Volume (Rural)

Cumulative 5-Year plus Buildout Traffic Conditions

2. Pinkham Street / K Avenue



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor street approach with one lane.

	1 Lane & 1 Lane	2 or More Lanes & 1 Lane	2 or More Lanes & 2 or More Lanes	7:00 AM Volume	2:00 PM Volume	4:00 PM Volume	5:00 PM Volume
Major Street (Total of Both Approaches)	☑	☐	☐	346	325	300	323
Minor Street (Higher Volume Approach)				163	130	182	167

Satisfied: ☐ **Yes** ☑ **No**

Calculated By: DCC Date: 11/05/25

Checked By: DC Date: 11/05/25

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

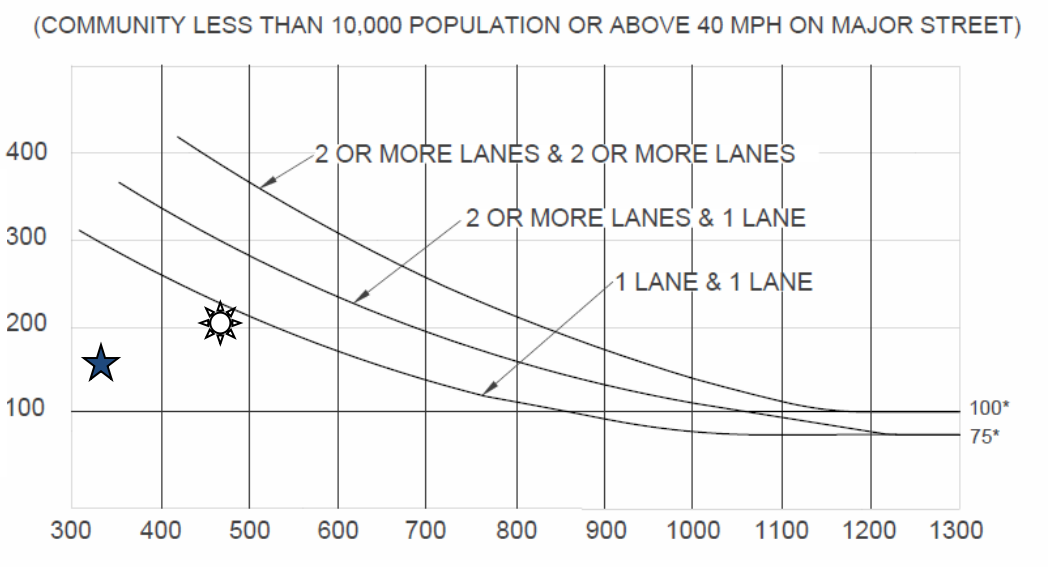
www.JLBTraffic.com
info@JLBTraffic.com

516 W Shaw Ave., Ste 103
Fresno, CA 93704
(559) 570-8991

Warrant 3: Peak Hour (Rural)

Cumulative 5-Year plus Buildout Traffic Conditions
2. Pinkham Street / K Avenue
AM (PM) Peak Hour

K Avenue Highest Approach Volume = 213 (168) VPH



Pinkham Street Total of Both Approaches =

470 (349) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Not Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103

Fresno, CA 93704

(559) 570-8991

California MUTCD 2014 Edition

(FHWA'S MUTCD 2009 Edition, as amended for use in California)

Signal Warrant Analysis

Cumulative 5-Year plus Buildout Traffic Conditions

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

DIST	CO	RTE	KPM
006	Fresno	N/A	N/A

COUNT DATE 09/09/25

CALC DCC DATE 11/05/25

CHK DC DATE 11/07/25

Major St: **Lovers Lane** Critical Approach Speed 40 MPH

Minor St: **K Avenue**

Critical speed of major street traffic > 64 km/h (40 mph)..... ☑ or ☐ RURAL (R)

In built up area of isolated community of < 10,000 population ..... ☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

SATISFIED YES ☑ NO ☐

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume

100% SATISFIED YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) U (1)	R (1)	U (2 or More)	R (2 or More)	7:00 AM	8:00 AM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	1156	1006	914	1086	1206	1269	1281	897
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	98	67	53	71	95	102	111	85

Hour

Condition B - Interruption of Continuous Traffic

100% SATISFIED YES ☑ NO ☐

80 % SATISFIED YES ☑ NO ☐

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) U (1)	R (1)	U (2 or More)	R (2 or More)	7:00 AM	8:00 AM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	1156	1006	914	1086	1206	1269	1281	897
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	98	67	53	71	95	102	111	85

Hour

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Combination of Conditions A & B

SATISFIED YES ☐ NO ☑

REQUIREMENT	WARRANT		FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☑
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

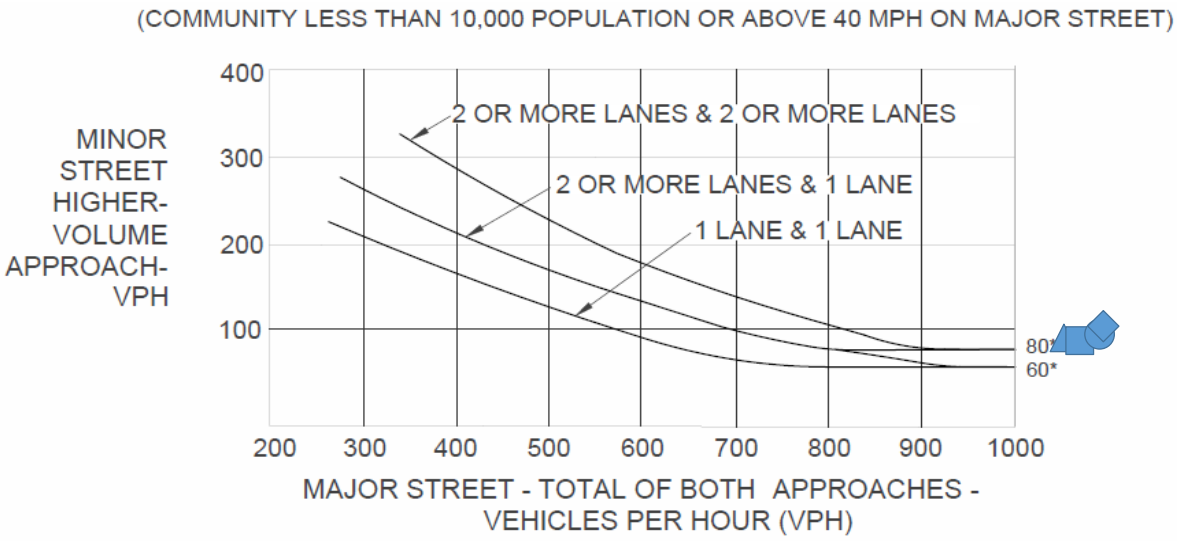
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570 - 8991

Warrant 2: Four-Hour Vehicular Volume (Rural)

Cumulative 5-Year plus Buildout Traffic Conditions

3. Lovers Lane / K Avenue



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor street approach with one lane.

	1 Lane & 1 Lane	2 or More Lanes & 1 Lane	2 or More Lanes & 2 or More Lanes	7:00 AM Volume	3:00 PM Volume	4:00 PM Volume	5:00 PM Volume
Major Street (Total of Both Approaches)	☐	☑	☐	1156	1206	1269	1281
Minor Street (Higher Volume Approach)				98	95	102	111

Satisfied: ☑ **Yes** ☐ **No**

Calculated By: DCC Date: 11/05/25
Checked By: DC Date: 11/07/25

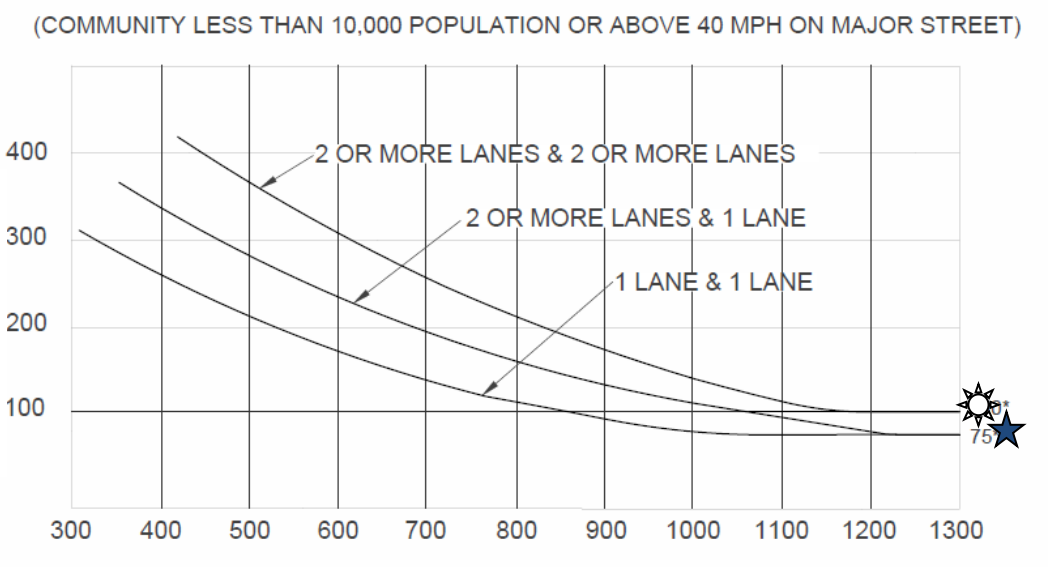
Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.
www.JLBTraffic.com
info@JLBTraffic.com
516 W Shaw Ave., Ste 103
Fresno, CA 93704
(559) 570-8991

Warrant 3: Peak Hour (Rural)

Cumulative 5-Year plus Buildout Traffic Conditions
3. Lovers Lane / K Avenue
AM (PM) Peak Hour

K Avenue Highest Approach Volume = 113 (75) VPH



Lovers Lane Total of Both Approaches =

1366 (1421) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Met

PM Peak Hour – Signal Warrant is Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570-8991

California MUTCD 2014 Edition

(FHWA'S MUTCD 2009 Edition, as amended for use in California)

Signal Warrant Analysis

Cumulative 5-Year plus Buildout Traffic Conditions

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

DIST	CO	RTE	KPM
006	Fresno	N/A	N/A

COUNT DATE 09/09/25

CALC DCC DATE 11/05/25

CHK DC DATE 11/07/25

Major St: **Lovers Lane** Critical Approach Speed 40 MPH

Minor St: **Sunnyside Avenue**

Critical speed of major street traffic > 64 km/h (40 mph)..... ☑ RURAL (R)

In built up area of isolated community of < 10,000 population ..... or ☐ RURAL (R)

☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

SATISFIED YES ☑ NO ☐

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume

100% SATISFIED YES ☑ NO ☐

80 % SATISFIED YES ☑ NO ☐

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	Hour
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	1105	943	858	1035	1149	1205	1194	822	
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	142	130	110	129	146	177	185	160	

Condition B - Interruption of Continuous Traffic

100% SATISFIED YES ☑ NO ☐

80 % SATISFIED YES ☑ NO ☐

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	1:00 PM	2:00 PM	3:00 PM	12:00 AM	5:00 PM	6:00 PM	Hour
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	1105	943	858	1035	1149	1205	1194	822	
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	142	130	110	129	146	177	185	160	

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Combination of Conditions A & B **SATISFIED** YES ☑ NO ☐

REQUIREMENT	WARRANT		FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes ☑ No ☐
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

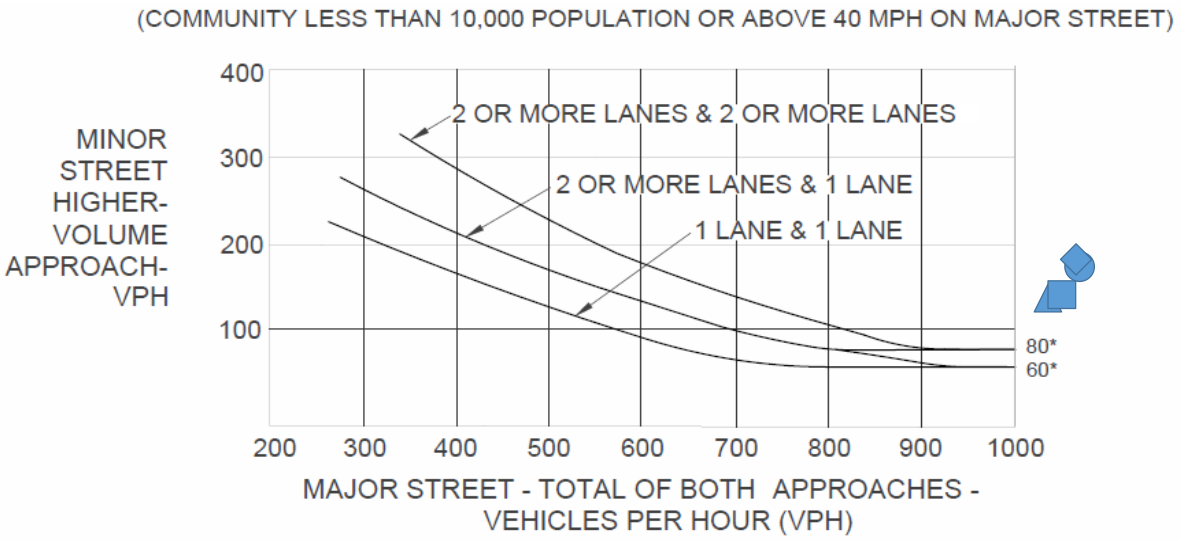
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570 - 8991

Warrant 2: Four-Hour Vehicular Volume (Rural)

Cumulative 5-Year plus Buildout Traffic Conditions

5. Lovers Lane / Sunnyside Avenue



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor street approach with one lane.

	1 Lane & 1 Lane	2 or More Lanes & 1 Lane	2 or More Lanes & 2 or More Lanes	7:00 AM Volume	3:00 PM Volume	4:00 PM Volume	5:00 PM Volume
Major Street (Total of Both Approaches)	☐	☑	☐	1105	1149	1205	1194
Minor Street (Higher Volume Approach)				142	146	177	185

Satisfied: ☑ **Yes** ☐ **No**

Calculated By: DCC Date: 11/05/25

Checked By: DC Date: 11/07/25

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBTraffic.com
info@JLBTraffic.com

516 W Shaw Ave., Ste 103
Fresno, CA 93704
(559) 570-8991

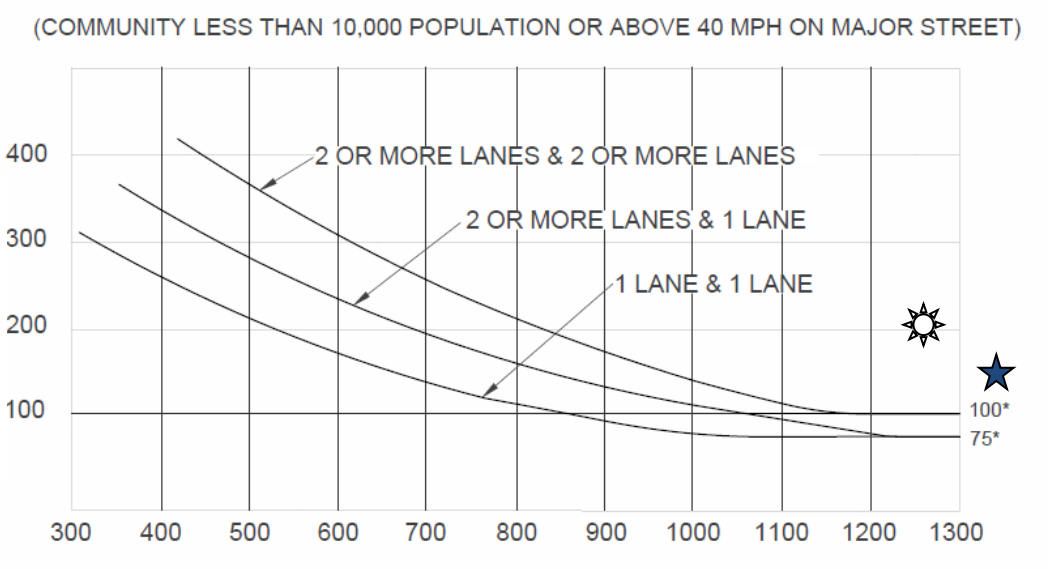
Warrant 3: Peak Hour (Rural)

Cumulative 5-Year plus Buildout Traffic Conditions
5. Lovers Lane / Sunnyside Avenue
AM (PM) Peak Hour

Sunnyside Avenue

Highest Approach Volume =

210 (141) VPH



Lovers Lane Total of Both Approaches =

1261 (1414) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Met

PM Peak Hour – Signal Warrant is Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103

Fresno, CA 93704

(559) 570-8991

California MUTCD 2014 Edition

(FHWA'S MUTCD 2009 Edition, as amended for use in California)

Signal Warrant Analysis

Cumulative 5-Year plus Buildout Traffic Conditions

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

DIST	CO	RTE	KPM
006	Fresno	N/A	N/A

COUNT DATE 09/09/25

CALC DCC DATE 11/05/25

CHK DC DATE 11/07/25

Major St: **Pinkham Street**

Minor St: **Caldwell Avenue**

Critical Approach Speed 40 MPH

Critical speed of major street traffic > 64 km/h (40 mph)..... ☑

In built up area of isolated community of < 10,000 population ..... ☐

or } RURAL (R)

☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

SATISFIED YES ☐ NO ☑

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume

100% SATISFIED YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	Hour
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	806	826	789	844	937	899	918	804	
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	48	48	55	71	80	72	65	65	

Condition B - Interruption of Continuous Traffic

100% SATISFIED YES ☐ NO ☑

80 % SATISFIED YES ☑ NO ☐

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	Hour
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	806	826	789	844	937	899	918	804	
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	48	48	55	71	80	72	65	65	

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Combination of Conditions A & B **SATISFIED** YES ☐ NO ☑

REQUIREMENT	WARRANT		FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☑
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

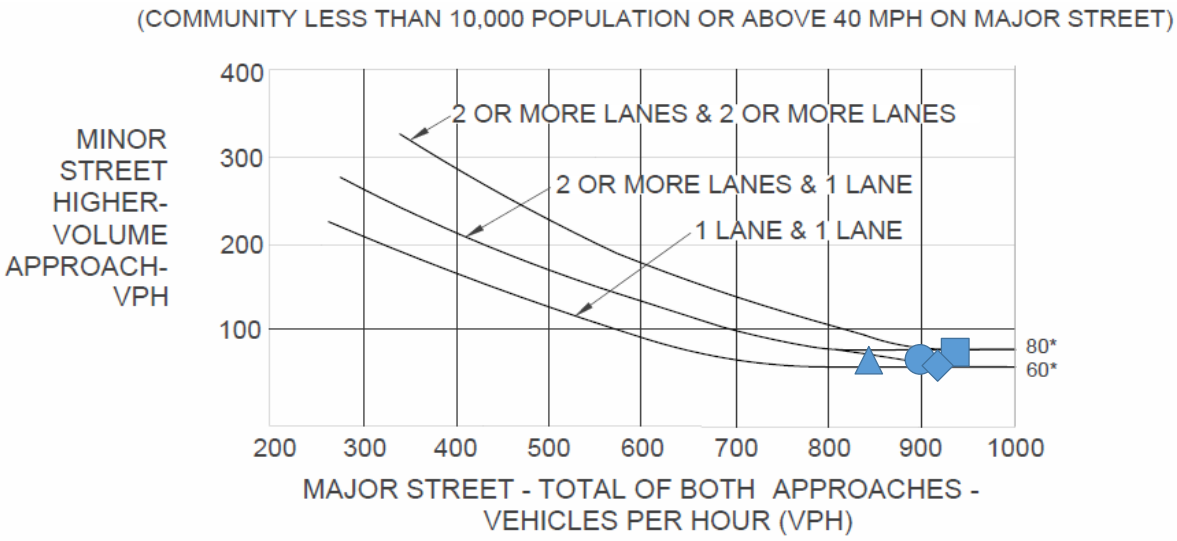
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570 - 8991

Warrant 2: Four-Hour Vehicular Volume (Rural)

Cumulative 5-Year plus Buildout Traffic Conditions

10. Pinkham Street / Caldwell Avenue



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor street approach with one lane.

	1 Lane & 1 Lane	2 or More Lanes & 1 Lane	2 or More Lanes & 2 or More Lanes	2:00 PM Volume	3:00 PM Volume	4:00 PM Volume	5:00 PM Volume
Major Street (Total of Both Approaches)	☑	☐	☐	844	937	899	918
Minor Street (Higher Volume Approach)				71	80	72	65

Satisfied: ☑ **Yes** ☐ **No**

Calculated By: DCC Date: 11/05/25

Checked By: DC Date: 11/07/25

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBTraffic.com
info@JLBTraffic.com

516 W Shaw Ave., Ste 103
Fresno, CA 93704
(559) 570-8991

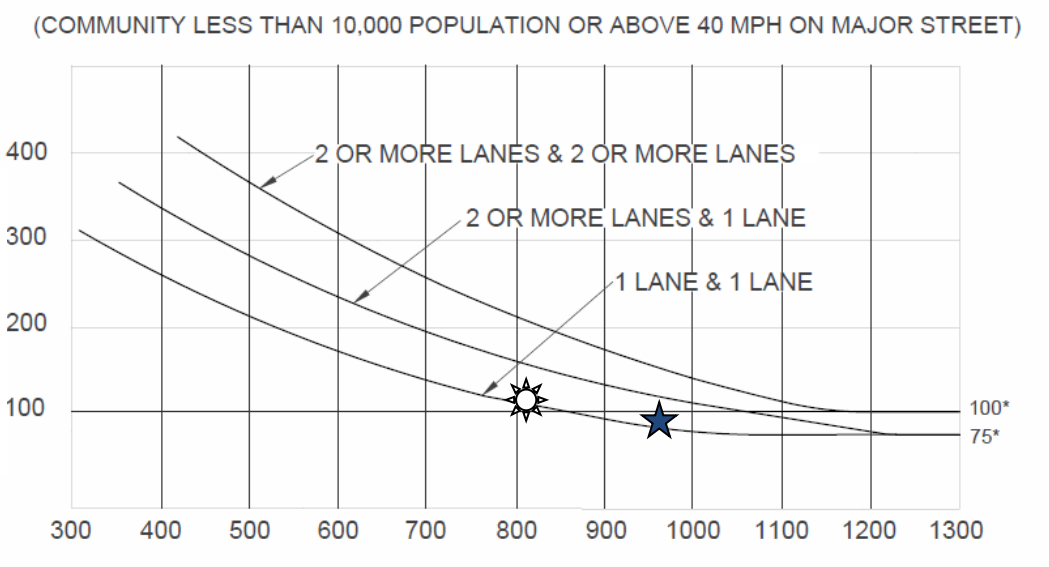
Warrant 3: Peak Hour (Rural)

Cumulative 5-Year plus Buildout Traffic Conditions
10. Pinkham Street / Caldwell Avenue
AM (PM) Peak Hour

Pinkham Street

Highest Approach Volume =

116 (89) VPH



Caldwell Avenue Total of Both Approaches =

811 (971) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Met

PM Peak Hour – Signal Warrant is Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103

Fresno, CA 93704

(559) 570-8991

California MUTCD 2014 Edition

(FHWA'S MUTCD 2009 Edition, as amended for use in California)

Signal Warrant Analysis

Cumulative 5-Year plus Buildout Traffic Conditions

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet

006	Fresno	N/A	N/A
DIST	CO	RTE	KPM

COUNT DATE 10/28/25

CALC DCC DATE 11/24/25

CHK MA DATE 11/24/25

Major St: **Road 148**

Minor St: **Caldwell Avenue**

Critical Approach Speed 40 MPH

Critical speed of major street traffic > 64 km/h (40 mph)..... ☑

In built up area of isolated community of < 10,000 population ..... ☐

or } RURAL (R)

☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

SATISFIED YES ☐ NO ☑

(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume

100% SATISFIED YES ☐ NO ☑

80 % SATISFIED YES ☐ NO ☑

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	Hour
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	617	588	649	710	702	880	820	807	
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	133	115	52	61	42	146	106	113	

Condition B - Interruption of Continuous Traffic

100% SATISFIED YES ☐ NO ☑

80 % SATISFIED YES ☑ NO ☐

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS) 1 U	1 R	2 or More U	2 or More R	7:00 AM	8:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	Hour
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	617	588	649	710	702	880	820	807	
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	133	115	52	61	42	146	106	113	

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Combination of Conditions A & B **SATISFIED** YES ☐ NO ☑

REQUIREMENT	WARRANT		FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☑
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com

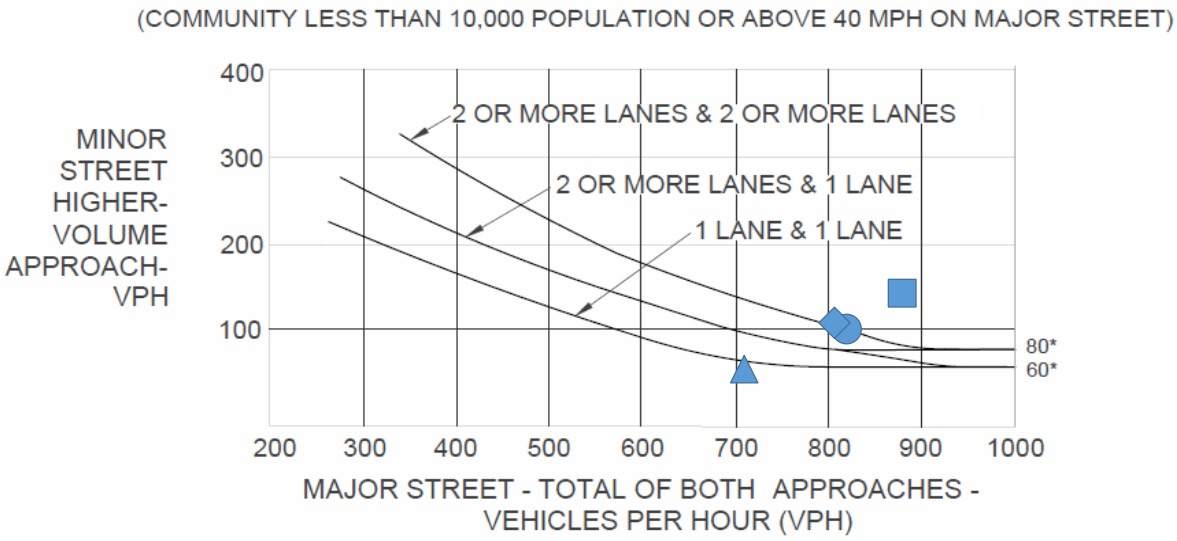
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570 - 8991

Warrant 2: Four-Hour Vehicular Volume (Rural)

Cumulative 5-Year plus Buildout Traffic Conditions

12. Road 148 / Caldwell Avenue



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor street approach with one lane.

	1 Lane & 1 Lane	2 or More Lanes & 1 Lane	2 or More Lanes & 2 or More Lanes	1:00 PM Volume	3:00 PM Volume	4:00 PM Volume	5:00 PM Volume
Major Street (Total of Both Approaches)	☑	☐	☐	710	880	820	807
Minor Street (Higher Volume Approach)				61	146	106	113

Satisfied: ☐ **Yes** ☑ **No**

Calculated By: DCC Date: 11/24/25

Checked By: MA Date: 11/24/25

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

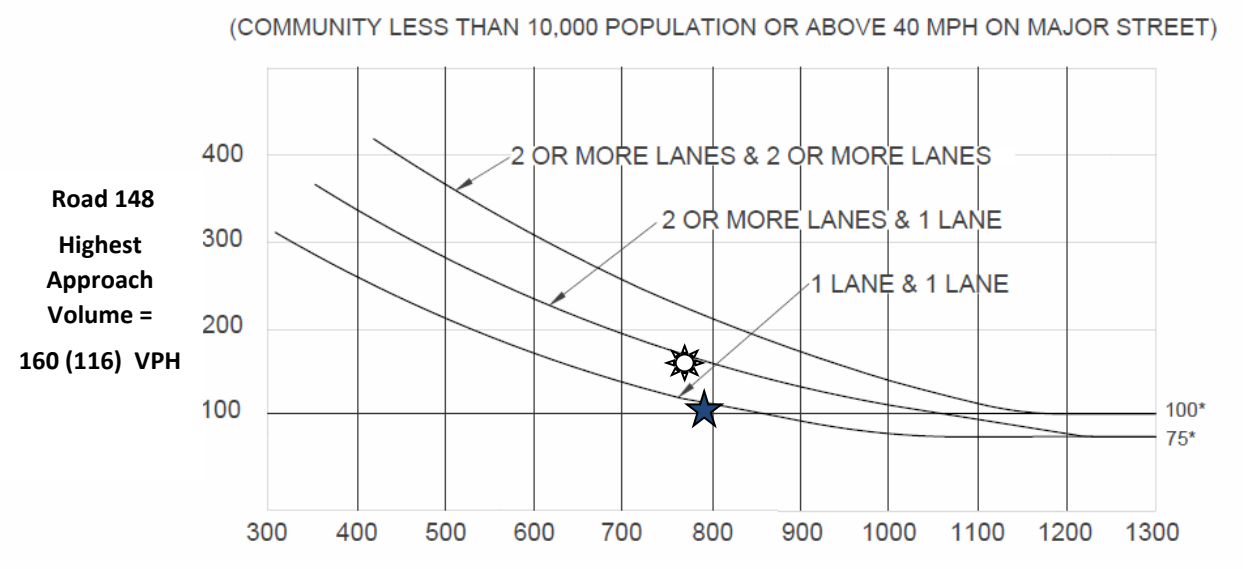
JLB TRAFFIC ENGINEERING, INC.

www.JLBTraffic.com
info@JLBTraffic.com

516 W Shaw Ave., Ste 103
Fresno, CA 93704
(559) 570-8991

Warrant 3: Peak Hour (Rural)

Cumulative 5-Year plus Buildout Traffic Conditions
12. Road 148 / Caldwell Avenue
AM (PM) Peak Hour



Road 148
Highest Approach Volume =
160 (116) VPH

Caldwell Avenue Total of Both Approaches =

781 (799) VPH

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor street approach with one lane.

AM Peak Hour – Signal Warrant is Met

PM Peak Hour – Signal Warrant is Not Met

Source: California Manual of Uniform Traffic Control Devices (CA MUTCD 2014 Edition)
Chapter 4C: Traffic Control Signal Needs Studies
Part 4: Highway Traffic Signals
November 7, 2014

JLB TRAFFIC ENGINEERING, INC.

www.JLBtraffic.com
info@JLBtraffic.com

516 W. Shaw Ave., Ste. 103
Fresno, CA 93704
(559) 570-8991

MEMORANDUM

TO: Jaymie Brauer, QK

FROM: Erik Ruehr, VRPA Technologies

DATE: March 17, 2026

RE: Clements Ranch Vehicle Miles Traveled (VMT) Analysis

This memorandum provides a vehicle miles traveled (VMT) analysis for the proposed Clements Ranch project in the City of Visalia. The project is located east of Lovers Lanes between K Avenue and Caldwell Avenue. The project location and a preliminary site plan are shown in the attachments. The project proposes to build 292 single-family residential units and 375 multi-family residential units.

The VMT analysis was conducted using the City of Visalia VMT Thresholds and Implementation Guidelines dated February 3, 2025 and the online tool that was created for use with the guidelines.

The results of the VMT analysis can be summarized as follows:

- ✓ A check was conducted to determine whether the project would be screened out of requiring a VMT analysis due to being located in a VMT-efficient area of the Tulare County. However, based on the City's online screening tool, the project is located in traffic analysis zone (TAZ) 1421, an area of the City where there is currently no population and a determination of VMT per capita is not possible. Therefore, the determination of VMT per capita was based on the VMT per capita of all of the TAZ's adjacent to the project site.

- ✓ In addition, it was noted that TAZ's 1402, 1439, 1440, and 1478, which are adjacent to TAZ 1421, also have no population and there is no data available to determine VMT per capita. Therefore, the VMT per capita for each of these TAZ's was calculated based on the average of the adjacent TAZ's for which a VMT per capita value is available. The calculations are included in the attachments and the results are shown below:

  TAZ 1402 VMT Per Capita: 9.51
  TAZ 1439 VMT Per Capita: 9.98
  TAZ 1440 VMT Per Capita: 10.92
  TAZ 1478 VMT Per Capita: 18.11

4630 W. Jennifer, Suite 105, Fresno, CA 93722 • Phone (559) 271-1200
www.vrpatechnologies.com

- ✓ Exhibit 1 shows the calculation of VMT per capita for TAZ 1421, where the project site is located. Based on the average of all traffic analysis zones adjacent to the project site (including the TAZ's described above), the existing VMT per capita is 11.03.

- ✓ Shown below is a calculation that compares the VMT per capita value for TAZ 1421 to the average VMT per capita for Tulare County to determine whether there is a significant VMT impact:

  TAZ 1421 VMT Per Capita: 11.03
  Tulare County Average VMT Per Capita: 13.2
  16% Below Tulare County Average VMT Per Capita: 11.1 (significance threshold)

It can be concluded that the project has a VMT per capita of 11.03 which is below the significance threshold of 11.1. The project has a less than significant VMT impact and no mitigation measures are needed.

Please contact me if you have any questions. I can be reached by email at eruehr@vrpatech.com or by phone at (858) 361-7151.

Exhibit 1
Clements Ranch
VMT Analysis

TRAFFIC ANALYSIS ZONE	VMT/CAPITA (1)
1401	10.39
1402 (2)	9.51
1403	9.30
1420	8.62
1477	11.37
1439 (2)	9.98
1440 (2)	10.92
1478 (2)	18.11
Average	11.03

(1) Source: City of Visalia Online VMT Analysis Tool (Accessed 3/17/26)

(2) VMT per capita based on average VMT of adjacent TAZ's since the subject TAZ has no existing data. (See text.)

ATTACHMENTS

Project Location
Project Site Plan
TAZ 1402 VMT Calculations
TAZ 1439 VMT Calculations
TAZ 1440 VMT Calculations
TAZ 1478 VMT Calculations

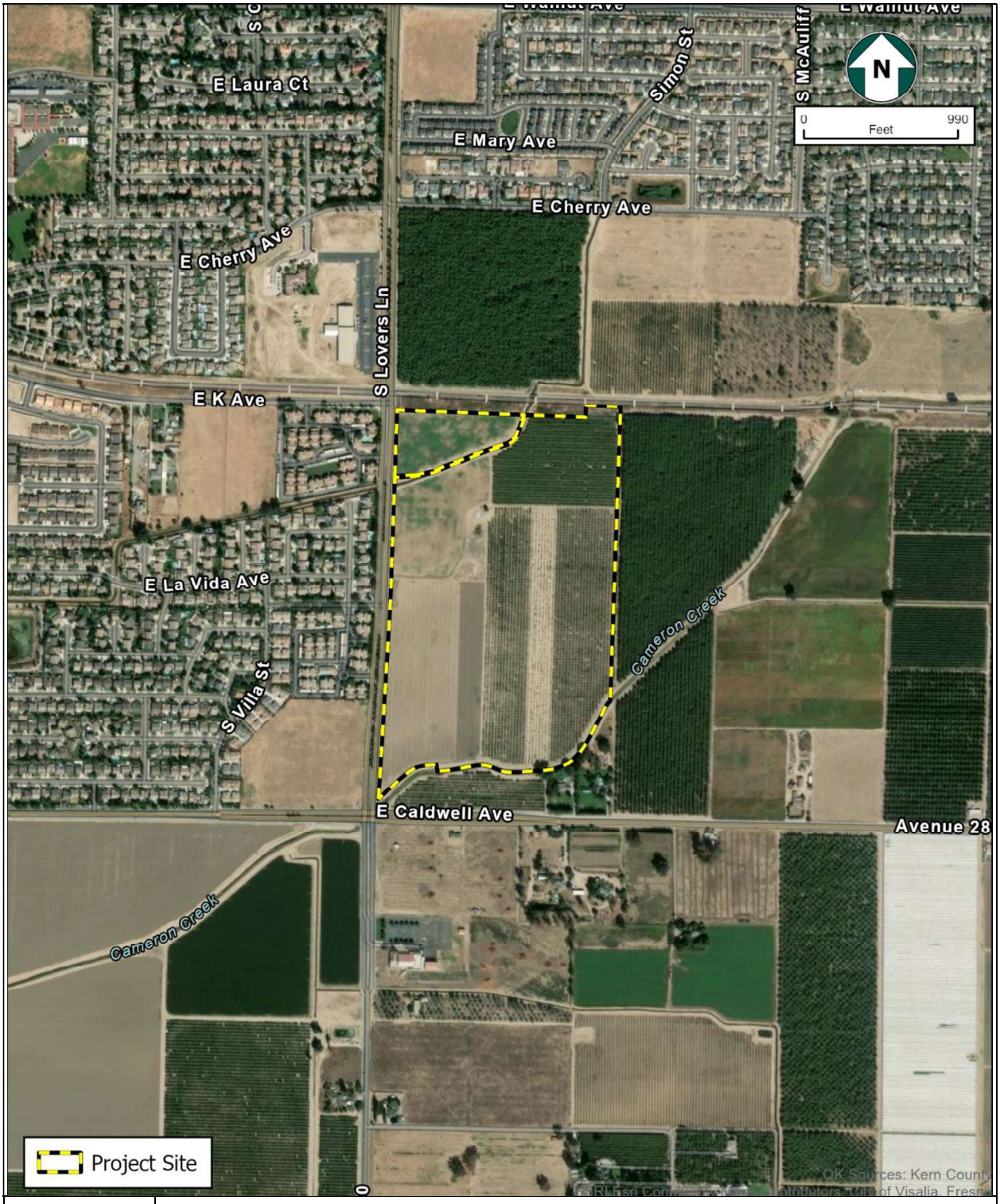
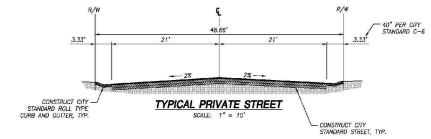
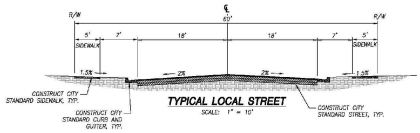


Figure 1
Project Site

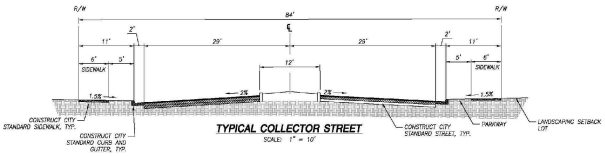
OVERALL BOUNDARY



TYPICAL PRIVATE STREET
SCALE: 1" = 10'



TYPICAL LOCAL STREET
SCALE: 1" = 10'



TYPICAL COLLECTOR STREET
SCALE: 1" = 10'

TENTATIVE SUBDIVISION MAP

BEING THE WEST HALF OF THE SOUTH-WEST QUARTER OF SECTION 3, T.19S., R.25E., MOUNT DIABLO BASE AND MERIDIAN, IN THE COUNTY OF TULARE, STATE OF CALIFORNIA.

BY:

QK
WWW.QKINC.COM
1-800-853-7595
BAKERSFIELD, CLOVIS, HANFORD, MERCED, PORTERVILLE, VISALIA
© COPYRIGHT BY QUAD KNOPF, INC. UNAUTHORIZED USE PROHIBITED.

RECORD OWNER
HAROLD LEON CLEMENTS

SUBDIVIDER
D.R. HORTON, AMERICA'S BUILDER
419 W. MURRAY AVENUE
VISALIA, CA 93291
(559) 636-9850

LAND SURVEYOR
ANTONIO S. WESTERLUND, PLS, CFedS
681 FOLSOM AVE.
SUITE 301
CLOVIS, CA 93612
(559)449-2400

LEGEND
ALL DISTANCES SHOWN ARE IN U.S. SURVEY FEET AND DECIMALS THEREOF, UNLESS OTHERWISE NOTED.

- SUBDIVISION BOUNDARY
- PROPOSED CENTERLINE
- SECTION LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING RIGHT OF WAY
- PROPOSED PARCEL LINES
- PROPOSED PUBLIC UTILITY EASEMENT
- SHEET INDEX LINE
- PHASE LINE

PROPOSED UNITS

MINIMUM LOT SIZES:	NO. OF UNITS
50' X 100' LOTS	139
38' X 72' LOTS	153

UTILITIES

SOUTHERN CALIFORNIA EDISON:
MISAEL IBARRA
2420 S. BLACKSTONE STREET,
TULARE, CA 93274
O: 559-684-3532
C: 559-801-1272
mikael.ibarra@sce.com

AT&T:
ERIN PITOTA
317 W. ACEQUIA AVENUE,
VISALIA, CA 93291
O: 559-739-6645
C: 559-737-1637
ep354@att.com

SOUTHERN CALIFORNIA GAS COMPANY:
JOAN MEJORADO
404 N. LAPOM STREET,
VISALIA, CA 93292
PHONE: 559-739-2317
JMejorado@socalgas.com

COMCAST:
MICHAEL CORRAL
1031 N. PLAZA DRIVE,
VISALIA, CA 93291
O: 559-735-2104
C: 559-217-9003
Michael_Corral@comcast.com

STM. DRAINAGE:
CITY OF VISALIA WASTEWATER DIVISION
7579 AVE 288,
VISALIA, CA 93277
PHONE: 559-713-4465

PROPOSED SEWERAGE:
CITY OF VISALIA WASTEWATER DIVISION
7579 AVE 288,
VISALIA, CA 93277
PHONE: 559-713-4465

WATER:
CALIFORNIA WATER SERVICE
216 N. VALLEY OAKS DRIVE,
VISALIA, CA 93292
PHONE: 559-624-1600

FIRE PROTECTION:
CITY OF VISALIA
420 N. BURKE STREET,
VISALIA, CA 93292
PHONE: 559-713-4268

SOLID WASTE COLLECTION:
CITY OF VISALIA
SOLID WASTE DIVISION
PHONE: 559-713-4488

LEGAL DESCRIPTION

SOIL PROPERTY IN THE UNINCORPORATED AREA OF THE COUNTY OF TULARE, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

PARCEL 2:

THAT PORTION OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SECTION 3, TOWNSHIP 19 SOUTH, RANGE 25 EAST, MOUNT DIABLO BASE AND MERIDIAN, ACCORDING TO THE OFFICIAL PLAT THEREOF, DESCRIBED AS FOLLOWS:

BEGINNING 1100 FEET WEST OF THE SOUTHWEST CORNER OF THE SOUTHWEST QUARTER OF SAID SECTION 3; THENCE WEST 220 FEET TO THE SOUTHWEST CORNER OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SAID SECTION 3; THENCE NORTH ALONG THE WEST LINE OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SAID SECTION, 160 RODS TO THE NORTHWEST CORNER OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SAID SECTION 3; THENCE EAST 220 FEET TO A POINT 1100 FEET WEST OF THE NORTHWEST CORNER OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SECTION 3; THENCE SOUTH 160 RODS TO THE POINT OF BEGINNING.

EXCEPTING THEREFROM THAT PORTION LYING SOUTH OF THE CENTERLINE OF CAMERON CREEK, AS SAID CREEK EXISTED ON FEBRUARY 3, 1970.

APN: 127-020-020, 127-020-021 AND 127-020-022

NOTES

1. ADDRESS: VACANT LAND, TULARE COUNTY, CA 93292
2. DATE: JULY, 2023
3. EXISTING ZONING, LAND USE: R-2 (TULARE COUNTY)
4. EXISTING LAND USE: AE20 – EXCLUSIVE AGRICULTURAL, 20-ACRE MINIMUM
5. PROPOSED ZONING, LAND USE: R-1-5 AND R-M-2
6. SITE AREA: 28.11 ACRES(GROSS)/(24.01 ACRES(NET)
7. NO GRADE DIFFERENTIALS MORE OF MORE THAN 6' IS FORESEEN. ANY GRADE DIFFERENTIALS ACROSS EXISTING AND PROPOSED PROPERTY LINES WILL BE MITIGATED PER COUNTY OF TULARE REQUIREMENTS.
8. PROPOSED SEWER, WATER, CONCRETE CURBS, GUTTERS, SIDEWALKS, STREETLIGHTS, AND STREET PAVEMENT TO BE INSTALLED PER COUNTY OF TULARE STANDARD SPECIFICATIONS.
9. ALL STREETS WITHIN THIS SUBDIVISION TO BE OFFERED FOR DEDICATION FOR PUBLIC STREET PURPOSES.
10. ALL EXISTING WATER LINES, SEWERS, AND STORM DRAINS WILL REMAIN UNLESS OTHERWISE NOTED.
11. ALL EXISTING STRUCTURES ARE TO BE REMOVED. WELLS AND SEPTIC SYSTEMS ARE TO BE ABANDONED PER CITY AND COUNTY STANDARDS.
12. THERE ARE KNOWN UNDERGROUND FEATURES SUCH AS WELLS WITHIN THE PROPOSED SUBDIVISION.
13. FUTURE SITE IS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD. FLOOD ZONE=X AND ZONE=AE PER PANEL 845 OF 2550, MAP NO. 06107C0845E.
14. THERE ARE NO DUMP SITES ON THIS PROPERTY.
15. EXISTING SERVICE POLES TO BE REMOVED.
16. ALL EXISTING TREES TO BE REMOVED WITHIN THE BOUNDARY OF THE SUBDIVISION.
17. RESIDENTIAL BUILDINGS EXIST ONLY ON THE REMAINDER, AND WILL REMAIN UNTIL THE DEVELOPMENT OF SAID REMAINDER.
18. THIS IS A PHASED SUBDIVISION, CONSISTING OF FOUR PHASES WHICH ARE LABELED HEREON.

OUTLOT SCHEDULE

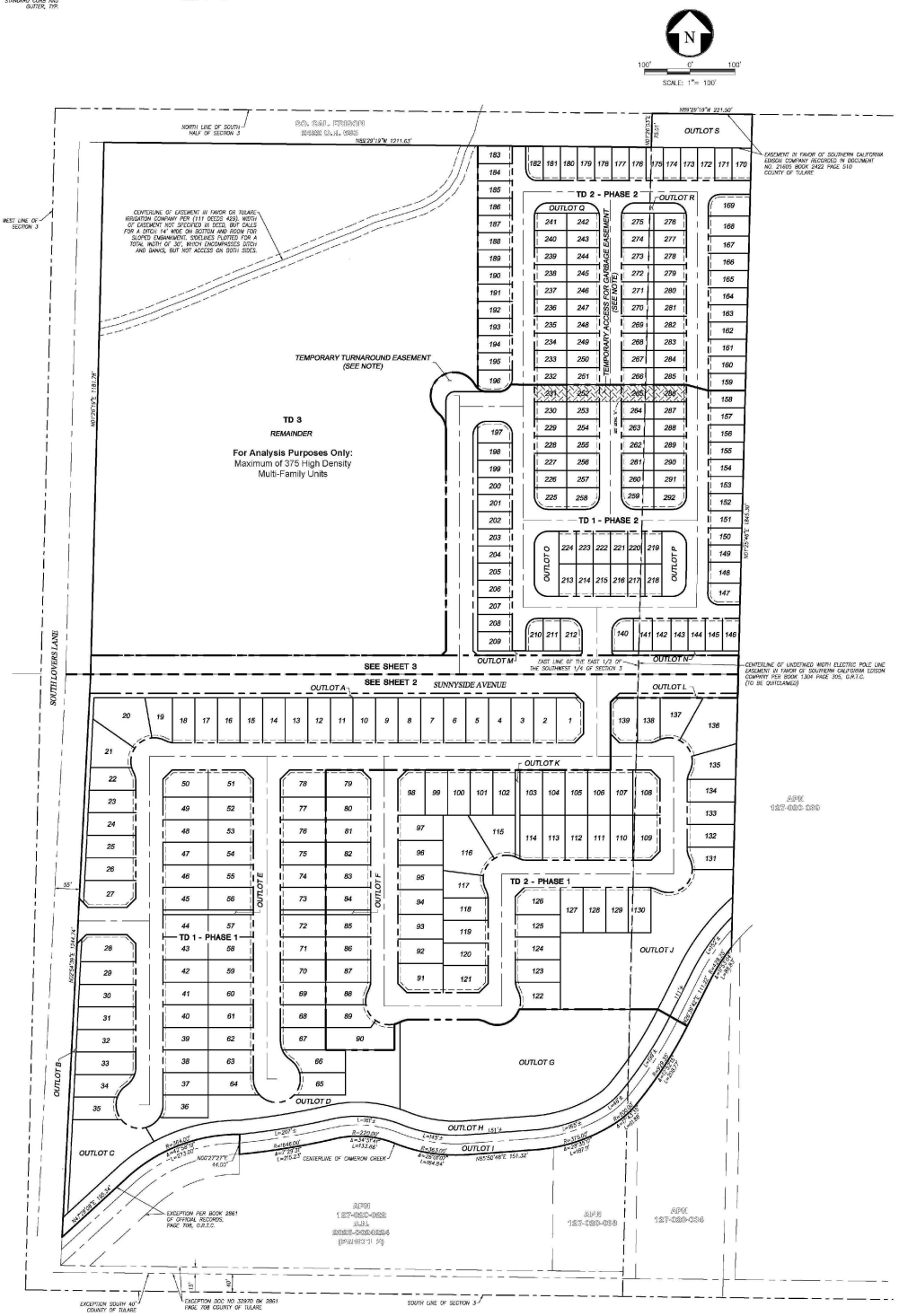
OUTLOTS A, B, E, F, H–P	TO BE DEDICATED TO THE CITY OF VISALIA FOR OPEN SPACE, PEDESTRIAN, PUBLIC LANDSCAPE PURPOSES.
OUTLOT D AND H	TO BE DEDICATED TO THE CITY OF VISALIA FOR TRAIL PURPOSES
OUTLOT C–WATER WELL	TO BE MAINTAINED BY CITY OF VISALIA USED FOR WATER WELL PURPOSES ONLY.
OUTLOT G–STORMWATER BASIN	TO BE MAINTAINED BY CITY OF VISALIA FOR STORM DRAIN PURPOSES ONLY.
OUTLOT I	TO BE DEDICATED TO TULARE COUNTY IRRIGATION DISTRICT
OUTLOTS N, O, P, AND Q	TO BE MAINTAINED BY HOA
OUTLOT S	TO BE DEEDED TO SOUTHERN CALIFORNIA EDISON

TEMPORARY TURNAROUND EASEMENT NOTE

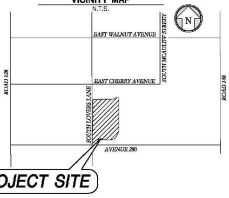
THE AREA SHOWN HEREON AS "TEMPORARY TURNAROUND EASEMENT" IS INTENDED TO FACILITATE VEHICLE ACCESS AND TURNAROUND OUTSIDE OF THE HOA DEVELOPMENT UNTIL THE TIME OF DEVELOPMENT OF THE REMAINDER, SEPARATE FROM THIS TSM. A PARCEL MAP IS BEING PROPOSED. INTENTION IS TO OFFER THIS AREA AS AN I.O.D. FOR PUBLIC ACCESS WITH THE PARCEL MAP AND TO HAVE SAID GIVEN ACCEPTED BY RESOLUTION AT THE TIME OF DEVELOPMENT OF THE AREA LABELED HEREON AS "PHASE 3". AT THE TIME OF FUTURE DEVELOPMENT OF THE REMAINDER, SAID EASEMENT WOULD BE ABANDONED.

TEMPORARY ACCESS FOR GARBAGE EASEMENT NOTE

THE AREA SHOWN HEREON AS "TEMPORARY ACCESS FOR GARBAGE EASEMENT" IS INTENDED TO FACILITATE VEHICLE ACCESS TO COLLECT GARBAGE. SAID EASEMENT WOULD BE ABANDONED AND ABLE TO BUILD ON IT DURING TD-2 PHASE 2.



VICINITY MAP
N.T.S.



Clements Ranch
VMT Analysis
TAZ 1402

TRAFFIC ANALYSIS ZONE	VMT/CAPITA (1)
1376	8.51
1377	8.86
1378	9.72
1401	10.39
1403	9.30
1420	8.62
1477	11.37
Average	9.54

(1) Source: City of Visalia Online VMT Analysis Tool (Accessed 3/17/26)

(2) VMT per capita based on average VMT of adjacent TAZ's since TAZ 1402 has no existing data. (See text.)

Clements Ranch
VMT Analysis
TAZ 1439

TRAFFIC ANALYSIS ZONE	VMT/CAPITA (1)
1419	9.00
1420	8.62
1438	9.51
1701	12.77
Average	9.98

(1) Source: City of Visalia Online VMT Analysis Tool (Accessed 3/17/26)

(2) VMT per capita based on average VMT of adjacent TAZ's since TAZ 1439 has no existing data. (See text.)

Clements Ranch
VMT Analysis
TAZ 1440

TRAFFIC ANALYSIS ZONE	VMT/CAPITA (1)
1420	8.62
1477	11.37
1701	12.77
Average	10.92

(1) Source: City of Visalia Online VMT Analysis Tool (Accessed 3/17/26)

(2) VMT per capita based on average VMT of adjacent TAZ's since TAZ 1440 has no existing data. (See text.)

Clements Ranch
VMT Analysis
TAZ 1478

TRAFFIC ANALYSIS ZONE	VMT/CAPITA (1)
1477	11.37
1833	33.71
1847	14.57
1701	12.77
Average	18.11

(1) Source: City of Visalia Online VMT Analysis Tool (Accessed 3/17/26)

(2) VMT per capita based on average VMT of adjacent TAZ's since TAZ 1478 has no existing data. (See text.)

APPENDIX E
WATER SUPPLY ASSESSMENT

CLEMENTS RANCH WATER SUPPLY ASSESSMENT

April 2026

California Water Service Company, Visalia District

TABLE OF CONTENTS

SECTION **PAGE NO.**

1. INTRODUCTION 4

2. GENERAL REQUIREMENTS FOR THE PREPARATION OF A WATER SUPPLY ASSESSMENT 8

2.1 Applicability of Senate Bill 610 and 221 to the Proposed Project 8
2.2 Responsibility for Preparation of the Water Supply Assessment 9
2.3 Components of a Water Supply Assessment 9
2.4 Potential Implementation of Development Offset Program 10

3. PROJECT DESCRIPTION 12

3.1.1 Single-Family Residential Developments 13
3.1.2 Multi-Family Residential Developments 13

4. PROJECT WATER DEMAND 14

4.1 Residential Water Use 14
4.2 Outdoor Water Use 14
4.3 Water Losses 15
4.4 Existing Current Water Demands on the Proposed Project Site 15
4.5 Total Project Water Demand 15

5. CAL WATER VISALIA DISTRICT WATER DEMAND 17

5.1 Current and Historical Water Demand within the Cal Water Visalia District Service Area 17
5.2 Visalia District Water Demand Projections 20
5.3 Total Projected Visalia District Water Demand (Including the Proposed Project Demand) 20

6. CAL WATER VISALIA DISTRICT WATER SUPPLY 24

6.1 Identification of Water Supply Rights 24
6.2 Groundwater Supply 25
6.2.1 Subbasin Description and Status 28
6.2.2 Groundwater Management 28
6.2.3 Groundwater Use and Supply 34
6.2.4 Analysis of Sufficiency of Groundwater Supply 35
6.3 Historical and Current Water Supplies 36
6.4 Projected Water Supplies 39
6.5 Water Conservation & Demand Management 41
6.6 Water Supply Availability in Normal, Single Dry, and Multiple Dry Years 41
6.6.1 Normal Year 41
6.6.2 Single Dry Year 43

6.6.3 Multiple Dry Years 44
7. WATER SUPPLY SUFFICIENCY 46
7.1 Comparison of Supply & Demand 46
7.2 Finding of Water Supply Sufficiency 47
8. CONCLUSIONS 48
9. REFERENCES 49
APPENDIX A: CLEMENTS RANCH OPERATIONAL STATEMENT 50
APPENDIX B: CLEMENTS RANCH SITE PLAN 51
APPENDIX C: VISALIA DISTRICT AWWA WATER AUDITS 52
APPENDIX D: ESTIMATED HISTORICAL WATER USE AT PROPOSED PROJECT SITE 53
APPENDIX E: CLEMENTS RANCH TENTATIVE SUBDIVISION MAP 54

TABLES

Table 3-1: Project Land Use Assumptions
Table 4-1: Summary of Estimated Annual Proposed Project Water Demand
Table 5-1: Historical Water Demand for the Visalia District (AFY)
Table 5-2: Projected Future Water Demand for the Visalia District (AFY)
Table 6-1: Historical Water Supply for the Visalia District (2004-2024)
Table 6-2: Historical and Projected Groundwater Production 2004-2045 (AFY)
Table 6-3: Projected Normal year water supply and demand (AFY)
Table 6-4: Projected Single Dry Year Water Supply and Demand (AFY)
Table 6-5: Projected Multiple Dry Year Water Supply and Demand (AFY)

FIGURES

Figure 1-1. Visalia District Service Area and Proposed Project Location
Figure 1-2. Proposed Project Location
Figure 5-1. Historical Water Demand for the Visalia District
Figure 5-2. Water Demand by Use type for the Visalia District (2020)
Figure 5-3. Projected Future Demand for the Visalia District (Inclusive of Proposed Project)
Figure 6-1. Regional Setting and Groundwater Basin (Cal Water Visalia District 2020 UWMP)
Figure 6-2. Historical 20-Year Water Supply (2004-2024), Visalia District
Figure 6-3. Historical (2004-2024) and Projected (2025-2045) Groundwater Production
Figure 6-4. Historical (2004-2024) and Projected (2025-2045) Normal Year Water Supply and Demand

Figure 6-5. Historical (2004-2024) and Projected (2025-2045) Single Dry Year Water Supply and Demand
Figure 6-6. Projected Multiple Dry Year Water Supply and Demand

CALIFORNIA WATER SERVICE
Water Resource Sustainability Department 1720 North First Street
San Jose, CA 95112

April 3, 2026

Aman Kaur Narwal
419 W. Murray Avenue
Visalia, CA 93291

Dear Mr. Narwal:

This letter serves as the California Water Service Company's (Cal Water) formal approval of the Water Supply Assessment (WSA) for the Clements Ranch Development. This approval is contingent on the developer's compliance with any conditions set forth in the WSA by Cal Water.

Authority for this approval is pursuant to Cal Water's "Resolution to Approve Water Supply Assessment and Related Documents for New Developments" dated October 27, 2021.

Should you have any questions, please contact Michael Bolzowski at mbolzowski@calwater.com or (408) 367-8338.

Sincerely,

Ken Jenkins
Vice President, Water Resources Planning & Sustainability

CALIFORNIA WATER SERVICE COMPANY

Resolution to Approve Water Supply Assessment and Related Documents for New Developments

RESOLVED, that this Board of Directors delegates its authority to approve future water supply assessments and related documents, as required under California Water Code Sections 10910 - 10912, and other related Sections, to any Officer of California Water Service Company.

I, MICHELLE MORTENSEN, Secretary of California Water Service Company, a California corporation, do hereby certify that the foregoing is a full, true and correct copy of certain resolutions adopted by the Board of Directors of said Corporation at a regular meeting of said Board duly called and held October 27, 2021, at which a quorum was present, that all Directors present voted in favor of said resolution, and that said resolution have never been annulled or revoked but are still in force and effect.

IN WITNESS WHEREOF, I have hereunto signed by name this 27th day of October 2021.

Michelle Mortensen
Corporate Secretary

1. INTRODUCTION

California Water Code:

10910 (a) Any city or county that determines that a project, as defined in Section 10912, is subject to the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) under Section 21080 of the Public Resources Code shall comply with this part.

10914 (a) Nothing in this part is intended to create a right or entitlement to water service or any specific level of water service.

(b) Nothing in this part is intended to either impose, expand, or limit any duty concerning the obligation of a public water system to provide certain service to its existing customers or to any future potential customers.

(c) Nothing in this part is intended to modify or otherwise change existing law with respect to projects which are not subject to this part.

(d) This part applies only to a project for which a notice of preparation is submitted on or after January 1, 1996.

This Senate Bill (SB) 610 compliant water supply assessment (WSA) is for the proposed Clements Ranch Development Project (proposed Project or Project) in California Water Service Company's (Cal Water) Visalia District (District). The Visalia District is in Tulare County and overlaps with the boundaries of the City of Visalia, as shown in **Figure 1-1**. As displayed in **Figure 1-2**, the Project site is adjacent to the District's eastern boundary. The Project consists of a residential development on approximately 81.5 acres that will include 370 multi-family residential dwelling units and 292 single-family residential dwelling units. The Project also includes 3.5 acres of landscaped space and 11.1 acres of Right-of-Way/Streets. The Project is described in more detail in Section 3.

The information provided in this WSA is consistent with California Water Code (CWC or Water Code) §10910-10912 requirements and the California Department of Water Resources' (DWR's) *Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001: To Assist Water Suppliers, Cities, and Counties in Integrating Water and Land Use Planning*, dated 8 October 2003 (California Water Code § 10910; California Water Code § 10912; California Department of Water Resources, 2003). The text of specific sub-sections of the Water Code, California Government Code (CGC), the California Business and Professions Code (CBPC), and the California Code of Regulations (CCR) is included in indented and italicized font at the beginning of specific sections of this WSA. The information presented in those respective sections, and the associated tables and figures, respond directly to Water Code requirements.

The purpose of this WSA is to evaluate whether the Visalia District has sufficient water supply to meet the current and planned water demands within the Visalia District, including the demands associated with the proposed Project, during normal and dry hydrologic years over a 20-year time horizon. More specifically, this WSA includes:

- A summary of the WSA requirements articulated in Water Code §10910-10912 and a description of how those requirements apply to the Project;
- An analysis describing the current and projected future water demands of the Project through the year 2045;

- An analysis describing the historical and current water demands for the Visalia District, and projected future water demands for its service area through the year 2045;
- An analysis describing the current and projected future water supplies for the Visalia District's service area through the year 2045, including the demands associated with the Project;
- A description of the extent to which the District or the project proponent has the right to extract additional groundwater as needed to supply the Project;
- A description of actions the District might take in response to water supply shortages, as summarized in the District's 2020 Water Shortage Contingency Plan (WSCP); and
- A summary of whether the Visalia District's water supplies are sufficient to meet the demands for Visalia District's service area, including the projected water demands associated with the Project.

The information contained in this WSA is based primarily on Cal Water's Visalia District 2020 Urban Water Management Plan (UWMP), except where updated with relevant water demand, supply reliability, and other information provided by Cal Water.

This WSA concludes that sufficient water supply is available to the District to meet all future demands associated with current and planned development within its service area, including those of the proposed Project. The proposed Project lies within the jurisdictions of the Mid-Kaweah Groundwater Sustainability Agency (MKGSA) and the Greater Kaweah GSA (GKGSA). Although water use for the proposed Project is currently consistent with the GKGSA and MKGSA GSPs, the GKGSA, MKGSA, or another governing entity (e.g., the State Water Resources Control Board (SWRCB)) may adopt and/or implement policies or management actions that could include groundwater allocations for urban users, groundwater extraction reporting requirements, or potential fees associated with groundwater extraction in the future. Should such policies or actions limit access to groundwater, Cal Water may need to undertake additional measures to mitigate any potential impacts on water supply reliability.

FIGURE 1-1. VISALIA DISTRICT SERVICE AREA AND PROPOSED PROJECT LOCATION

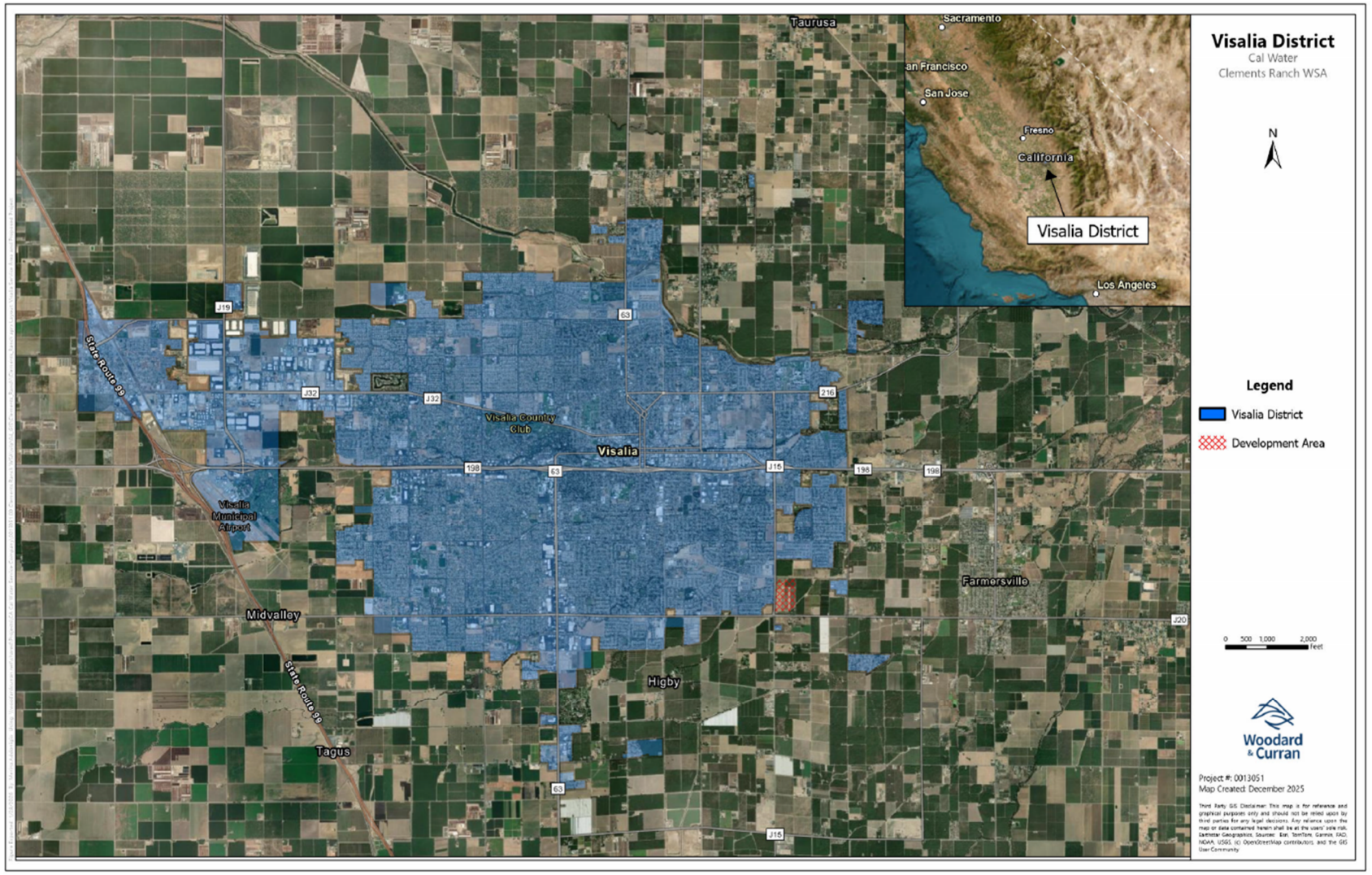


FIGURE 1-2. PROPOSED PROJECT LOCATION

2. GENERAL REQUIREMENTS FOR THE PREPARATION OF A WATER SUPPLY ASSESSMENT

The section outlines which projects require the preparation of a WSA. It also indicates who is responsible for preparing the WSA and summarizes the necessary components of a WSA.

2.1 Applicability of Senate Bill 610 and 221 to the Proposed Project

CWC § 10910 (a) Any city or county that determines that a project, as defined in Section 10912, is subject to the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) under Section 21080 of the Public Resources Code shall comply with this part.

CWC § 10912. For the purposes of this part, the following terms have the following meanings:

(a) "Project" means any of the following:

(1) A proposed residential development of more than 500 dwelling units.

(2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.

(3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.

(4) A proposed hotel or motel, or both, having more than 500 rooms.

(5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.

(6) A mixed-use project that includes one or more of the projects specified in this subdivision.

(7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

(b) If a public water system has fewer than 5,000 service connections, then "project" means any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10 percent or more in the number of the public water system's existing service connections, or a mixed-use project that would demand an amount of water equivalent to, or greater than, the amount of water required by residential development that would represent an increase of 10 percent or more in the number of the public water system's existing service connections.

CGC § 66473.7 (a) For the purposes of this section, the following definitions apply: (1) "Subdivision" means a proposed residential development of more than 500 dwelling units, except that for a public water system that has fewer than 5,000 service connections, "subdivision" means any proposed residential development that would account for an increase of 10 percent or more in the number of the public water system's existing service connections. (i) This section shall not apply to any residential project proposed for a site that is within an urbanized area and has been previously developed for urban uses, or where the immediate contiguous properties surrounding the residential project site are, or previously have been, developed for urban uses, or housing projects that are exclusively for very low and low-income households.

CBPC § 11010 (b)(6) A true statement of the provisions, if any, that have been made for public utilities in the proposed Subdivision, including water, electricity, gas, telephone, and sewerage facilities. For subdivided lands that were subject to the imposition of a condition pursuant to subdivision (b) of Section 66473.7 of the Government Code, the true statement of the provisions made for water shall be satisfied by submitting a copy of the written verification of the available water supply obtained pursuant to Section 66473.7 of the Government Code.

With the development of 662 residential buildings, the proposed Project exceeds the threshold for a "project" requiring a WSA pursuant to SB 610 (Water Code §10910(a) and 10912(a)(7)).

2.2 Responsibility for Preparation of the Water Supply Assessment

CWC § 10910 (b) The city or county, at the time that it determines whether an environmental impact report, a negative declaration, or a mitigated negative declaration is required for any project subject to the California Environmental Quality Act pursuant to Section 21080.1 of the Public Resources Code, shall identify any water system whose service area includes the project site and any water system adjacent to the project site that is, or may become as a result of supplying water to the project identified pursuant to this subdivision, a public water system, as defined in Section 10912, that may supply water for the project. If the city or county is not able to identify any public water system that may supply water for the project, the city or county shall prepare the water assessment required by this part after consulting with any entity serving domestic water supplies whose service area includes the project site, the local agency formation commission, and any public water system adjacent to the project site.

CGC § 66473.7 (a)(3) "Public water system" means the water supplier that is, or may become as a result of servicing the subdivision included in a tentative map pursuant to subdivision (b), a public water system, as defined in Section 10912 of the Water Code, that may supply water for a subdivision. (b)(1) The legislative body of a city or county or the advisory agency, to the extent that it is authorized by local ordinance to approve, conditionally approve, or disapprove the tentative map, shall include as a condition in any tentative map that includes a subdivision a requirement that a sufficient water supply shall be available. Proof of the availability of a sufficient water supply shall be requested by the subdivision applicant or local agency, at the discretion of the local agency, and shall be based on written verification from the applicable public water system within 90 days of a request. (2) If the public water system fails to deliver the written verification as required by this section, the local agency or any other interested party may seek a writ of mandamus to compel the public water system to comply. (4) If the written verification is not provided by the public water system, notwithstanding the local agency or other interested party securing a writ of mandamus to compel compliance with this section, then the local agency may make a finding that sufficient water supplies are, or will be, available prior to completion of the subdivision that will satisfy the requirements of this section. This finding shall be made on the record and supported by substantial evidence. (l) Nothing in this section shall preclude the legislative body of a city or county, or the designated advisory agency, at the request of the applicant, from making the determinations required in this section earlier than required pursuant to subdivision (b).

The proposed Project is located within the Cal Water Visalia District service area and the water for the proposed Project will be supplied by Cal Water. Therefore, in accordance with Water Code §10910(b), Cal Water is the entity responsible for preparation and adoption of a WSA for the proposed Project.

2.3 Components of a Water Supply Assessment

CWC § 10910 (c) (4) If the city or county is required to comply with this part pursuant to subdivision (b), the water supply assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project 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 existing and planned future uses, including agricultural and manufacturing uses.

CWC § 10911 (b) The city or county shall include the water supply assessment provided pursuant to Section 10910, and any information provided pursuant to subdivision (a), in any environmental document prepared for the project pursuant to Division 13 (commencing with Section 21000) of the Public Resources Code.

(c) The city or county may include in any environmental document an evaluation of any information included in that environmental document provided pursuant to subdivision (b). The city or county shall determine, based on the entire record, whether projected water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses. If the city or county determines that water supplies will not be sufficient, the city or county shall include that determination in its findings for the project.

CGC § 66473.7 (a)(2) "Sufficient water supply" means the total water supplies available during normal, single-dry, and multiple-dry years within a 20-year projection that will meet the projected demand associated with the proposed subdivision, in addition

to existing and planned future uses, including, but not limited to, agricultural and industrial uses. In determining "sufficient water supply," all of the following factors shall be considered:

(A) The availability of water supplies over a historical record of at least 20 years.

(B) The applicability of an urban water shortage contingency analysis prepared pursuant to Section 10632 of the Water Code that includes actions to be undertaken by the public water system in response to water supply shortages.

(C) The reduction in water supply allocated to a specific water use sector pursuant to a resolution or ordinance adopted, or a contract entered into, by the public water system, as long as that resolution, ordinance, or contract does not conflict with Section 354 of the Water Code.

(D) The amount of water that the water supplier can reasonably rely on receiving from other water supply projects, such as conjunctive use, reclaimed water, water conservation, and water transfer, including programs identified under federal, state, and local water initiatives such as CALFED and Colorado River tentative agreements, to the extent that these water supplies meet the criteria of subdivision (d).

As listed above in CWC § 10910(c)(4) and CGC §66473.7(a)(2), the primary purpose of a WSA is to evaluate whether sufficient water supply is available to meet all future demands within the water supplier's service area, including those associated with the proposed Project, during normal and dry hydrologic years for a 20-year planning horizon. More specifically, this WSA includes:

- A summary of the WSA requirements articulated in Water Code §10910-10912 and a description of how those requirements apply to the Project;
- An analysis describing the current and projected future water demands of the Project through the year 2045;
- An analysis describing the historical and current water demands for the Visalia District, and projected future water demands for its service area through the year 2045;
- An analysis describing the current and projected future water supplies for the Visalia District's service area through the year 2045, including the demands associated with the Project;
- A description of the extent to which the District or the project proponent has the right to extract additional groundwater as needed to supply the Project;
- A description of actions the District might take in response to water supply shortages, as summarized in the District's 2020 Water Shortage Contingency Plan (WSCP); and
- A summary of whether the Visalia District's water supplies are sufficient to meet the demands for Visalia District's service area, including the projected water demands associated with the Project.

2.4 Potential Implementation of Development Offset Program

As described in greater detail in Section 6.2, the GKGSA, the MKGSA, or another governing entity may implement policies or management actions in the future that may impact the availability of the District's groundwater supplies, including but not limited to, groundwater allocations, groundwater extraction reporting requirements, and establishment of potential fees associated

with groundwater extraction activities. Given the potential uncertainty surrounding future groundwater management, Cal Water is currently exploring implementation of a Development Offset Program for new developments to ensure that overall customer demand does not exceed the available future supply and to ensure water supply reliability.

3. PROJECT DESCRIPTION

The proposed Project will be developed on an approximately 81.5-acre site located southeast of the City of Visalia, adjacent to the City limits within Urban Growth Boundary II. The Project site includes Assessor's Parcel Numbers (APNs) 127-020-20 and 127-020-21.

The proposed Project consists of a combined 662 market-rate multi-family (370) and single-family (292) residential dwelling units (DU). The site incorporates a mix of residential land use designations, including High-Density Residential (R-M-3, Multi-Family Residential – 1,200 square feet (SF) lots), Medium-Density Residential (R-M-2, Multi-Family Residential – 3,000 SF lots), and Low-Density Residential (R-1-5, Single-Family Residential – 5,000 SF lots). Access to both the Low-Density and Medium-Density portions of the site will be provided through two primary entry points located on Lovers Lane and Sunny Side Avenue. **Table 3-1** summarizes the proposed Project's land uses.

TABLE 3-1: PROJECT LAND USE ASSUMPTIONS

Use Type	Proposed Use	Total SF	Commercial SF	Acreage	# of DUs	Notes
Single-Family Residential	Single-Family Residential	1,964,556	N/A	45.1	292	139 units 50' x 100' lots & 153 38' x 72' lots
Multi-Family Residential	Multi-Family Residential	949,608	N/A	21.8	370	
Other	Right-of-Way/Streets	483,516	N/A	11.1	N/A	
Landscape	Landscape	152,460	N/A	3.5	N/A	
Total		**3,550,140**	**0**	**81.5**	**662**	

3.1.1 Single-Family Residential Developments

The single-family component of the Project includes 292 market-rate dwelling units located within the Low-Density Residential land use designation. This portion of the site is designed with lots consistent with the minimum 5,000 SF lot size required for low-density development. The single-family neighborhood will offer traditional detached homes, providing a lower-density residential environment that complements the higher-density multi-family areas elsewhere on the site.

3.1.2 Multi-Family Residential Developments

The multi-family component of the Project consists of 370 market-rate residential units that are distributed across seven parcels of 30 DU and four parcels of 40 DU, located within areas designated for High-Density and Medium-Density land uses. These portions of the site are planned to accommodate smaller lot sizes consistent with multi-family development standards, including 1,200-square-foot lots in the High-Density area and approximately 2,736 SF lots in the Medium-Density area. The Medium-Density multi-family area will be developed as a Planned Unit Development (PUD) to allow reduced lot sizes, private internal streets, and a gated community layout.

4. PROJECT WATER DEMAND

City of Visalia and Tulare County have adopted green building standards and water-efficient landscaping ordinances consistent with previous versions of the CALGreen Building Standards Code and the California Model Water Efficient Landscape Ordinance (MWELO) (23 CCR 2.2.7 § 490-495, 2025; CALGreen, 2022) Landscaping will also comply with Assembly Bill (AB) 1572 (AB 1572, 2023). As part of state requirements, all new developments within City of Visalia and Tulare County must meet these efficiency standards. Accordingly, the proposed Project will incorporate low-flow lavatory faucets, kitchen faucets, toilets, and urinals in accordance with CALGreen Code, and include low-water-use landscaping and high-efficiency irrigation systems to minimize outdoor water use in compliance with MWELO.

As described below, the average annual water demand for the proposed Project was estimated using the Cal Water WSA Water Factor Tool (Cal Water, 2019) and information provided by the Project Proponent in coordination with Cal Water. Outdoor water use was estimated using landscaping plans provided by the Project Proponent and methods described under MWELO.

Total water demands include water used by the proposed Project for residential and outdoor uses, in addition to distribution system losses and other unaccounted for water. **Table 4-1** provides a summary of annual Project water demands by water use type, and forecasts Project water demands through 2050.

4.1 Residential Water Use

The Project includes 292 DU in single-family residential buildings and 370 DU in multi-family DU. Based on the Cal Water WSA Water Factor Tool, each single-family DU is expected to use 409 gallons per day (GPD), and each multi-family DU is expected to use 148 GPD. Residential water demand is thus 174,188 GPD, which is equivalent to 195 AFY.

4.2 Outdoor Water Use

In accordance with MWELO, a Project's water budget, or Maximum Applied Water Allowance (MAWA), is calculated using the formula below, where ETo refers to local reference evapotranspiration, ETAF refers to the evapotranspiration adjustment factor, and LA and SLA refer to landscape area and Special Landscape Area, respectively (California Department of Water Resources, 2015). ETo for Visalia is 53.3 inches per year. Because the proposed Project is primarily residential, the MWELO residential ETAF standard of 0.55 will be applied. The conversion factor from inches to gallons is 0.62. The proposed Project does not have any SLAs, and the total landscape area is 152,460 SF. As shown in the calculations below, the MAWA, or total landscaping water budget, for the Project, is 2,784,414 gallons per year.

$$MAWA = ETo \times 0.62 \times [(ETAF \times LA) + (1 - ETAF) \times SLA]$$

$$MAWA = 2{,}784{,}414\ gallons/year$$

The Project will be required to meet MWELO, and final landscape plans must achieve ETWU ≤ MAWA. For purposes of this WSA, the water demand associated with the Project's landscaping is assumed to be equal to MAWA.

4.3 Water Losses

Water losses (including both real and apparent losses) associated with the Project are expected to be minimal. However, estimates are included in this analysis to maintain conservative estimates of Project water demands. Between 2021-2023, the District's water loss averaged approximately 806 AFY, across an average of 48,540 active and inactive service connections. (California Water Service, 2022; 2023; 2024). Project water loss was assumed to be proportional to the District's water losses, so the same proportion was applied to the Project's water demands. As shown in **Table 4-1**, water losses associated with the Project are estimated to be 6 AFY. Water Loss Audits are included in **Appendix C**.

4.4 Existing Current Water Demands on the Proposed Project Site

The Proposed Project site has historically been used for irrigated agricultural production, relying exclusively on groundwater pumped from the underlying Subbasin. LandIQ land-use data (2024), the most reliable and widely used dataset for agricultural land-use classification in the region, indicates that between 2020 and 2024 the site supported a rotation of wheat on approximately 43 acres and almonds on approximately 25 acres. In addition, roughly 5 acres in the northwest corner of the site have been fallowed or idle for more than four consecutive years.

Because parcel-specific groundwater pumping data are not available, historical groundwater use at the site was estimated using the MAWA methodology. This method applies crop- and climate-based irrigation requirements to the mapped planted acreage, consistent with the approach used by the GSAs and in other recent WSAs in the Visalia area. Based on these MAWA-derived estimates, historical irrigation demand for the site ranged from approximately 210 to 348 AFY between 2020 and 2024, with an average irrigation demand of about 264 AFY over the five-year period.

These historical agricultural demands were met directly through on-site groundwater pumping and were not supplied by Cal Water. Because agricultural pumping is independent of and not connected to the Cal Water Visalia District system, the Project's potable water demand estimates do not subtract the historical agricultural groundwater use. This approach is consistent with Cal Water practice and with other WSAs (e.g., Carleton Acres and Pratt Family Ranch), even though both historical and future pumping originate from the same Subbasin. Once the agricultural use ceases, Cal Water becomes the exclusive supplier to the site, and the Project's full potable water demand is therefore additive to the District's overall demand projections.

4.5 Total Project Water Demand

At full buildout, assumed to be 2030, the proposed Project is estimated to have a total water demand of approximately 209 AFY from the water uses described below in **Table 4-1**.

TABLE 4-1: SUMMARY OF ESTIMATED ANNUAL PROPOSED PROJECT WATER DEMAND

Water Use		Project Characteristics			Demand Factor	Units	GPD[1]	Total Water Demand (AFY)				
		Area (SF)	Area (acres)	# of DUs				2030	2035	2040	2045	2050
Proposed Project	Single-Family Residential	1,964,556	45	292	409	GPD/ unit	119,428	134	134	134	134	134
	Multi-Family Residential	949,608	22	370	148	GPD/ unit	54,760	61	61	61	61	61
	Landscape	152,460	4	N/A	2,784,414	gallons per year	N/A	9	9	9	9	9
	Water Loss							6	6	6	6	6
	Existing Site Demand[2]							0	0	0	0	0
	Net Annual Water Demand							**209**	**209**	**209**	**209**	**209**

[1]GPD values are rounded

[2]The average historical agricultural demand associated with the Project site was calculated to be 264 AFY (see Appendix D); as historical water demands were not supplied by Cal Water, the total Project demands do not consider existing site demands.

5. CAL WATER VISALIA DISTRICT WATER DEMAND

CWC 10910 § (c)(1) The city or county, at the time it makes the determination required under Section 21080.1 of the Public Resources Code, shall request each public water system identified pursuant to subdivision (b) to determine whether the projected water demand associated with a proposed project was included as part of the most recently adopted urban water management plan adopted pursuant to Part 2.6 (commencing with Section 10610).

(3) If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall 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 public water system's existing and planned future uses, including agricultural and manufacturing uses.

The water demands of the Project were not accounted for in the District's most recent UWMP. The following sections assess the historical and projected water demands within the District service area, including the Project.

5.1 Current and Historical Water Demand within the Cal Water Visalia District Service Area

Historical water demands in the Visalia District have changed significantly in the last two decades. As shown in **Table 5-1**, demand peaked in 2008 at 34,848 AF, driven largely by increases in single-family residential use (Cal Water, 2025). After 2008, overall demand began to decline, reaching its lowest point in 2015 at 24,675 AF, likely due to drought-related restrictions and efficiency measures. Following this dip, demand gradually rebounded, stabilizing around 29,000–30,000 AF between 2018 and 2024. Single-family residential use remained the dominant category throughout the period, accounting for the largest share of demand. **Table 5-1** describes demands since 2004.

As displayed in **Figure 5-2**, 64% of demand in 2020 was attributed to single-family residential use, with losses (3%), commercial use (17%), institutional or governmental use (9%), multi-family residential use (5%), and industrial use (1%) accounting for the remaining 2020 demands (Cal Water, 2021).

TABLE 5-1: HISTORICAL WATER DEMAND FOR THE VISALIA DISTRICT (AFY)

	Single-Family Residential	Multi-Family Residential	Commercial	Institutional/ Government	Industrial	Other	Losses	Total Water Demand
2004	20,867	989	5,888	1,606	318	219	2,599	**32,486**
2005	19,556	926	5,431	1,636	288	408	2,456	**30,701**
2006	20,463	929	5,685	1,636	305	451	2,563	**32,032**
2007	22,027	914	6,376	1,889	312	337	2,770	**34,625**
2008	21,989	1,065	6,033	2,512	322	140	2,788	**34,848**
2009	21,362	1,197	5,942	2,515	270	54	2,725	**34,065**
2010	19,407	1,205	5,898	2,404	269	39	2,541	**31,762**
2011	18,109	1,576	5,382	2,434	286	53	2,421	**30,260**
2012	20,337	1,827	5,546	2,817	324	68	482	**31,400**
2013	20,995	1,846	5,595	2,900	393	97	535	**32,360**
2014	18,832	1,685	5,296	2,485	407	77	692	**29,475**
2015	15,338	1,479	4,526	2,001	366	96	870	**24,675**
2016	15,756	1,429	4,493	2,201	352	214	1,231	**25,677**
2017	16,954	1,477	5,012	2,505	407	215	1,129	**27,698**
2018	18,037	1,499	5,421	2,728	405	148	835	**29,073**
2019	18,112	1,497	5,342	2,873	414	118	298	**28,654**
2020	19,361	1,525	5,240	2,601	306	200	941	**30,172**
2021	19,496	1,483	5,541	2,410	344	125	767	**30,166**
2022	18,800	1,460	5,509	2,299	342	245	755	**29,410**
2023	17,803	1,396	5,405	2,255	380	139	608	**27,985**
2024	18,774	1,449	5,623	2,469	401	102	733	**29,550**

FIGURE 5-1. HISTORICAL WATER DEMAND FOR THE VISALIA DISTRICT

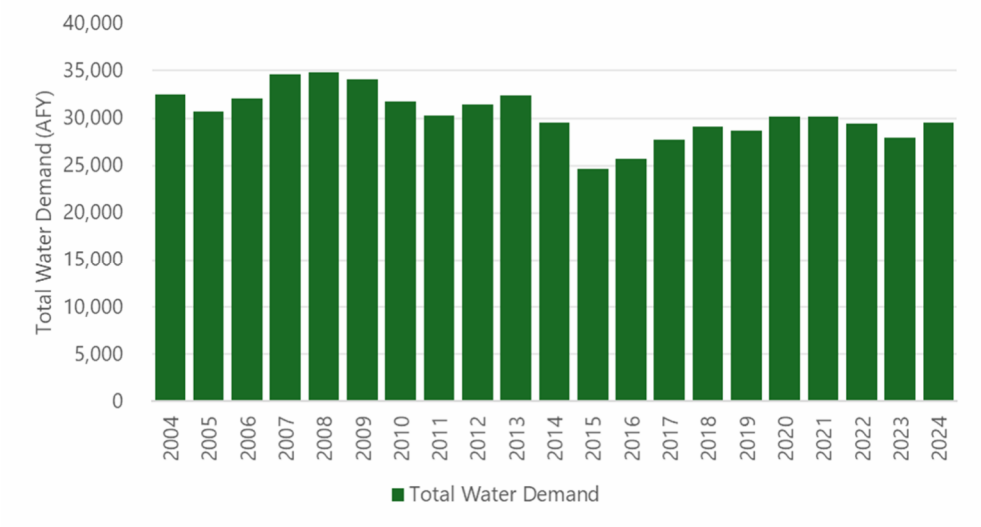
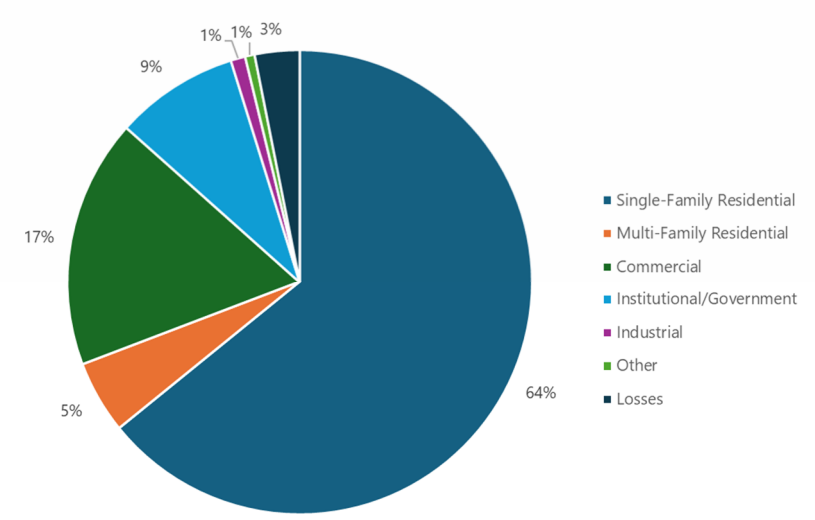


FIGURE 5-2. WATER DEMAND BY USE TYPE FOR THE VISALIA DISTRICT (2020)



5.2 Visalia District Water Demand Projections

The District's 2020 UWMP estimated future water demands through 2045 using historical water use data and projections of population change and climate variability (Cal Water, 2021). **Table 5-2** presents the UWMP projections at a 5-year interval. District water demand is expected to increase approximately 26% between 2030 and 2045. The water demand projections are higher than the average demand observed between 2016 and 2020 and between 2021 and 2024.

Along with this proposed Project, Cal Water has also received several other development proposals and has completed Water Supply Assessment (WSA) and demand projections for each. These include:

- Carleton Acres
    - Single-Family Homes: 1,592 DUs
    - Multi-Family Homes: 1,670 DUs
    - Total Commercial Area: 277,264 SF
    - Total Landscape Irrigation Area: 1,016,280 SF
- Pratt Family Ranch
    - Single-Family Homes: 541 DUs
    - Total Landscape Irrigation Area: 414,560 SF
- Kelsey–Hurley Industrial Park
    - Total Land Use Area: 2,276,644 SF

In addition to the proposed Project, Cal Water has identified additional development projects within the District:

- CapRock Partners warehouses – About 1.27 million SF (75 acres) along Highway 99 in West Visalia near Plaza Drive.
- Seefried Industries – A 284-acre industrial park at the northwest corner of Shirk Street and Riggin Avenue

The status and water demand of the CapRock Partners and Seefried Industries projects above are unknown at this time and are therefore not included for in this WSA.

5.3 Total Projected Visalia District Water Demand (Including the Proposed Project Demand)

The total water demand for the proposed Project was not accounted for in the District 2020 UWMP projections (Cal Water, 2021). Consequently, the demands associated with the proposed Project are assumed to be additive to District's overall demands.

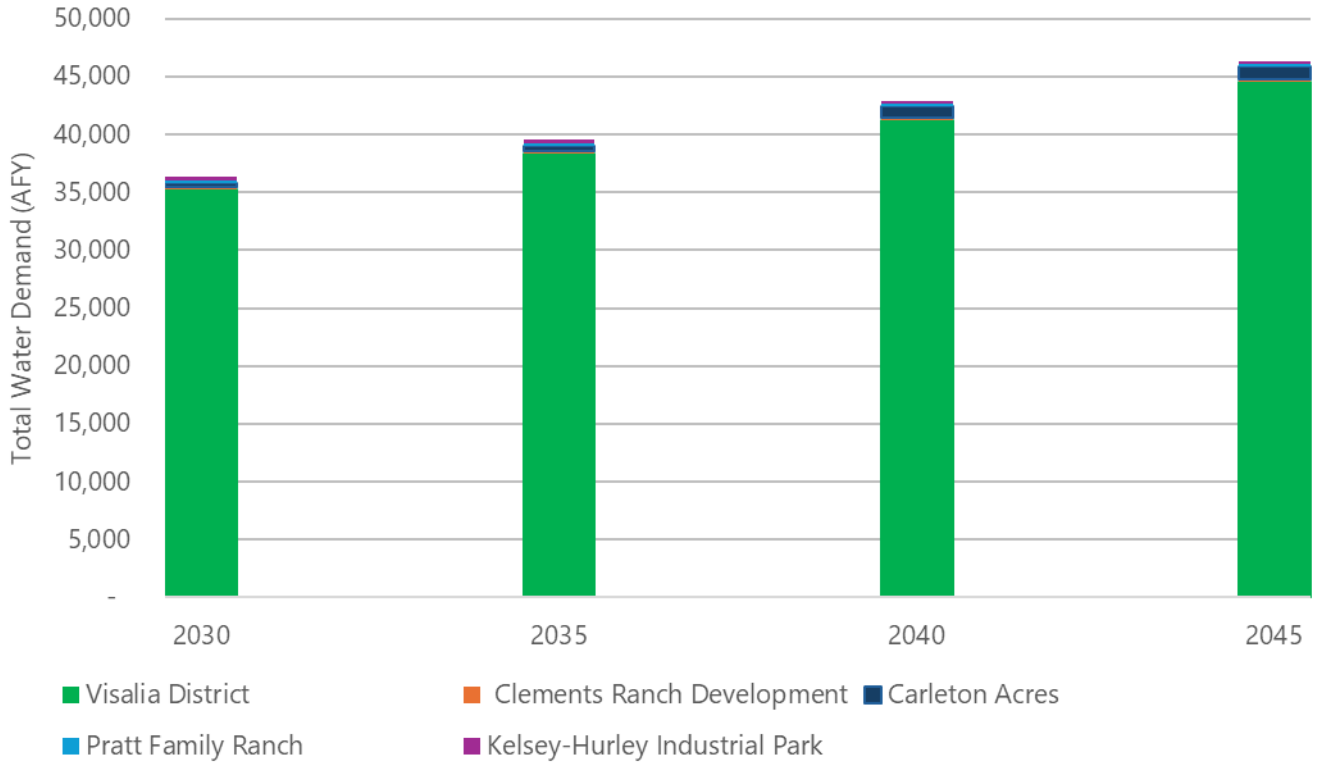
As discussed in Section 4 above, the proposed Project is estimated to have an annual water demand of 209 AFY. Thus, the District's total water demand, including Project demand, is expected to reach 46,361 AFY in 2045, as shown in **Table 5-2**. **Figure 5-3** displays the District's total projected water demands through 2045.

TABLE 5-2: PROJECTED FUTURE WATER DEMAND FOR THE VISALIA DISTRICT (AFY)

Projected Water Demand	2030	2035	2040	2045
Visalia District*	35,275	38,309	41,258	44,529
Clements Ranch Development	209	209	209	209
Carleton Acres	306	484	941	1,108
Pratt Family Ranch	275	275	275	275
Kelsey-Hurley Industrial Park	240	240	240	240
Total	**36,305**	**39,517**	**42,923**	**46,361**

** As reported in 2020 UWMP* (Cal Water, 2021). *Includes non-revenue water.*

FIGURE 5-3. PROJECTED FUTURE DEMAND FOR THE VISALIA DISTRICT (INCLUSIVE OF PROPOSED PROJECT)



6. CAL WATER VISALIA DISTRICT WATER SUPPLY

CGC § 66473.7 (c) The applicable public water system's written verification of its ability or inability to provide a sufficient water supply that will meet the projected demand associated with the proposed subdivision as required by subdivision (b) shall be supported by substantial evidence. The substantial evidence may include, but is not limited to, any of the following: (1) The public water system's most recently adopted urban water management plan adopted pursuant to Part 2.6 (commencing with Section 10610) of Division 6 of the Water Code. (2) A water supply assessment that was completed pursuant to Part 2.10 (commencing with Section 10910) of Division 6 of the Water Code. (3) A groundwater sustainability plan adopted or alternative approved pursuant to Part 2.74 (commencing with Section 10720) of Division 6 of the Water Code. (4) Other information relating to the sufficiency of the water supply that contains analytical information that is substantially similar to the assessment required by Section 10635 of the Water Code.

This section identifies the water supplies for the District and discusses the vulnerability of the various supplies to drought and other factors affecting water supply reliability. Unless otherwise noted, the source of the information included in this section is the District's 2020 UWMP. The District's water supply is sourced exclusively from groundwater extracted from the Kaweah and Tule Subbasins, both of which are part of the San Joaquin Valley Groundwater Basin.

6.1 Identification of Water Supply Rights

CWC §10910 (d) (1) The assessment required by this section shall include an identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and a description of the quantities of water received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts.

CGC § 66473.7 (d) When the written verification pursuant to subdivision (b) relies on projected water supplies that are not currently available to the public water system, to provide a sufficient water supply to the subdivision, the written verification as to those projected water supplies shall be based on all of the following elements, to the extent each is applicable:

(1) Written contracts or other proof of valid rights to the identified water supply that identify the terms and conditions under which the water will be available to serve the proposed subdivision.

(2) Copies of a capital outlay program for financing the delivery of a sufficient water supply that has been adopted by the applicable governing body.

(3) Securing of applicable federal, state, and local permits for construction of necessary infrastructure associated with supplying a sufficient water supply.

(4) Any necessary regulatory approvals that are required in order to be able to convey or deliver a sufficient water supply to the subdivision.

(g) The written verification prepared under this section shall also include a description, to the extent that data is reasonably available based on published records maintained by federal and state agencies, and public records of local agencies, of the reasonably foreseeable impacts of the proposed subdivision on the availability of water resources for agricultural and industrial uses within the public water system's service area that are not currently receiving water from the public water system but are utilizing the same sources of water. To the extent that those reasonably foreseeable impacts have previously been evaluated in a document prepared pursuant to the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) or the National Environmental Policy Act (Public Law 91-190) for the proposed subdivision, the public water system may utilize that information in preparing the written verification.

Pursuant to California law, WSAs are required to identify all water rights or supply entitlements relevant to the proposed Project. The District meets its demand solely through groundwater. This section summarizes the water rights and supplies available to the District.

6.2 Groundwater Supply

CWC § 10910 (f) If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water supply assessment:

(1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.

(2) (A) A description of any groundwater basin or basins from which the proposed project will be supplied.

(B) For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree.
(C) For a basin that has not been adjudicated that is a basin designated as high- or medium-priority pursuant to Section 10722.4, information regarding the following:

(i) Whether the department has identified the basin as being subject to critical conditions of overdraft pursuant to Section 12924.
(ii) If a groundwater sustainability agency has adopted a groundwater sustainability plan or has an approved alternative, a copy of that alternative or plan.

(D) For a basin that has not been adjudicated that is a basin designated as low- or very low priority pursuant to Section 10722.4, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), for the past five years from any groundwater basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), from any basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(5) 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. A water supply assessment shall not be required to include the information required by this paragraph if the public water system determines, as part of the review required by paragraph (1), that the sufficiency of groundwater necessary to meet the initial and projected water demand associated with the project was addressed in the description and analysis required by paragraph (4) of subdivision (b) of Section 10631.

CGC § 66473.7 (a)(2)(E) If a proposed subdivision relies in whole or in part on groundwater, the following factors: (i) For a basin for which a court or the State Water Resources Control Board has adjudicated the rights to pump groundwater, the order or decree adopted by the court or the State Water Resources Control Board. (ii) For a basin that has not been adjudicated, as follows: (I) For a basin designated as high- or medium-priority pursuant to Section 10722.4 of the Water Code, the most recently adopted or revised adopted groundwater sustainability plan or approved alternative. If there is no adopted groundwater sustainability plan or approved alternative, information as to whether the Department of Water Resources has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue. (II) For a basin designated as low- or very low priority pursuant to Section 10722.4 of the Water Code, information as to whether the Department of Water Resources has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue. (g) The written verification prepared under this section shall also include a description, to the extent that data is reasonably available based on published records maintained by federal and state agencies, and public records of local agencies, of the reasonably foreseeable impacts of the proposed subdivision on the availability of water resources for agricultural and industrial uses within the public water system's service

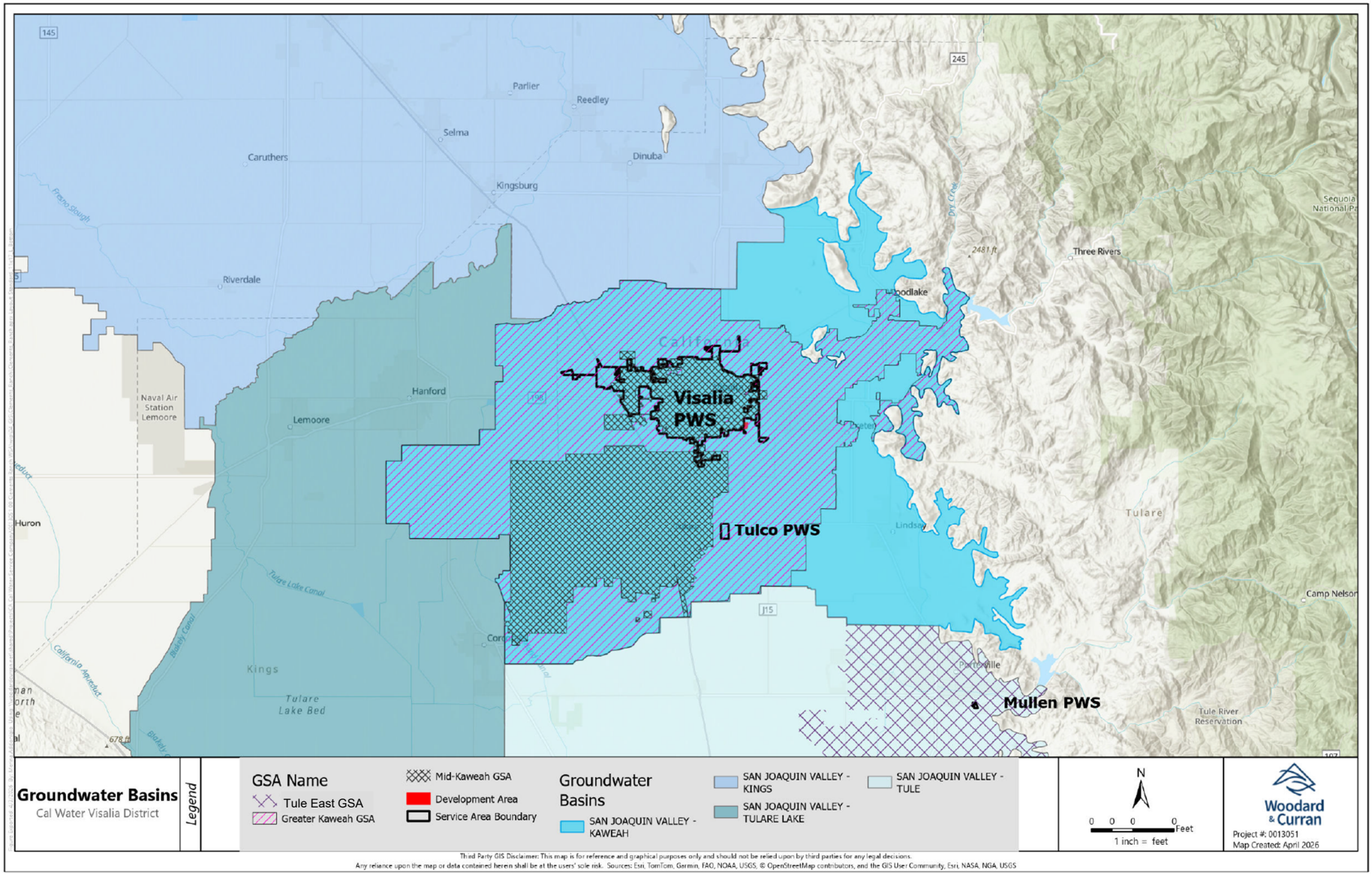
area that are not currently receiving water from the public water system but are utilizing the same sources of water. To the extent that those reasonably foreseeable impacts have previously been evaluated in a document prepared pursuant to the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) or the National Environmental Policy Act (Public Law 91-190) for the proposed subdivision, the public water system may utilize that information in preparing the written verification. (h) Where a water supply for a proposed subdivision includes groundwater, the public water system serving the proposed subdivision shall evaluate, based on substantial evidence, the extent to which it or the landowner has the right to extract the additional groundwater needed to supply the proposed subdivision. Nothing in this subdivision is intended to modify state law with regard to groundwater rights.

The District operates three public water systems (PWS): the Visalia System, the Tulco System, and the Mullen System. The Visalia PWS and Tulco PWS overlie the Kaweah Subbasin, while the Mullen System is located within the Tule Subbasin, as shown in as shown in **Figure 6-1**. Both subbasins are part of the larger San Joaquin Valley Groundwater Basin, identified by DWR as Basin Nos. 5-022.11 and 5-022.13.

Nearly all of the District's water supply is pumped from the Kaweah Subbasin; only about 0.1% of annual production comes from wells in the Tule Subbasin. Because the Proposed Project (and most of the District's customers) are located within the Kaweah Subbasin, this WSA focuses on groundwater conditions and management within that subbasin.

Cal Water operates as a public utility and is required by the California Public Utilities Commission (CPUC) to serve all customers within its approved service area under reasonable rules and tariffs. The groundwater basin is not adjudicated, and the supply projections presented in this WSA do not limit, define, or otherwise alter Cal Water's groundwater rights or its ability to pump the volumes needed to meet customer demand.

FIGURE 6-1. REGIONAL SETTING AND GROUNDWATER BASIN (CAL WATER VISALIA DISTRICT 2020 UWMP)



6.2.1 Subbasin Description and Status

The Kaweah Subbasin encompasses approximately 446,000 acres, or 696 square miles, in the San Joaquin Valley. It is bordered by the Kings Subbasin to the north, the Tule Subbasin to the south, the crystalline bedrock of the Sierra Nevada foothills to the east, and the Tulare Lake Subbasin to the west. The Subbasin is not adjudicated. Under the Sustainable Groundwater Management Act (SGMA), DWR determined that it is in critical overdraft (California Department of Water Resources, 2019) and designated it as a high-priority basin in its 2019 Phase 2 Basin Prioritization.

Basins are ranked on eight components, with scores above 21 points classified as "high priority". The Kaweah Subbasin received the maximum score of 40 points due to its critically overdrafted condition. Key factors contributing to this designation include irrigated acreage per square mile, population growth, and groundwater reliance, each scoring 5 out of 5 points. Additional factors include declining groundwater levels and subsidence, which scored 4 out of 5 points, as well as high well density, which also scored 4 out of 5 points.

6.2.2 Groundwater Management

6.2.2.1 Non-SGMA Groundwater Management Program

Before SGMA was adopted, groundwater in the Kaweah Subbasin was managed under the Kaweah River Basin Integrated Regional Water Management Plan (IRWMP), last updated in July 2018. The IRWMP outlined objectives in five areas: groundwater management, water supply, water quality, flood control, and ecosystem restoration. These objectives guided regional water strategies and project proposals. Today, the Kaweah Subbasin GSPs have replaced the IRWMP as the primary groundwater management framework.

Historically, the Kaweah Delta Water Conservation District (KDWCD) and other irrigation districts managed groundwater through conjunctive use of surface water. KDWCD programs provide additional surface water for irrigation, reducing groundwater pumping and promoting in-lieu recharge. Groundwater serves as a backup when surface water is limited and as the sole source in areas without surface water access. KDWCD also operates water management basins that support flood control and groundwater replenishment, with recharge occurring through direct infiltration and percolation from surface water applications.

In the Lower Kaweah River area, including Packwood and Cameron Creeks, surface water deliveries are managed by Tulare Irrigation District (TID) and other entities. The City of Visalia maintains a groundwater recharge program funded by Cal Water customers through a pumping charge. This program works in coordination with KDWCD and irrigation districts to enhance groundwater sustainability.

6.2.2.2 SGMA Groundwater Management Program

The California State Legislature enacted SGMA in 2014 with amendments in 2015. SGMA requires the creation of GSAs and the preparation of GSPs for medium- and high-priority groundwater

basins (as designated by DWR). As a high-priority basin, the Subbasin must comply with SGMA requirements, including requirements to be managed under one or more GSAs and submitting one or more GSPs to DWR.

To meet these SGMA requirements, three GSAs were formed to assume responsibility for sustainable groundwater management of the Kaweah Subbasin: the MKGSA, EKGSA, and GKGSA. Each GSA prepared an individual GSP, but certain technical efforts (e.g., development of a coordinated water budget) were cooperatively developed through a Coordination Agreement. The majority of the Visalia District falls within the jurisdiction of the MKGSA, which covers an area of approximately 104,320 acres in the central to southwestern side of the Kaweah Subbasin. The Proposed Project falls within the GKGSA which covers roughly 217,600 acres.

All GSPs for the Subbasin were originally submitted to DWR ahead of the January 30, 2020 deadline. After DWR identified deficiencies in July 2022, the GSAs revised and resubmitted their plans. DWR later deemed those 2022 versions inadequate, prompting each GSA to release and adopt a second set of revisions in November 2024. These 2024 Second Amended GSPs represent the most current planning efforts for the Subbasin.

As defined under SGMA, sustainable yield means "the maximum quantity of water, calculated over a base period representative of long-term conditions in a basin and including any temporary surplus, that can be withdrawn annually from a groundwater supply without causing undesirable results" (CWC §10721(w)). Within this framework, the sustainable yield of the Subbasin is approximately 578,000 AFY (MKGSA, 2024) (GKGSA, 2024).

Projects and management actions described in the GSPs to support long-term sustainability include development of new recharge and storage facilities, upgrades to existing recharge basins, and both agricultural and municipal conservation initiatives. The GSP also evaluates potential implementation of groundwater flow meters to support programs such as fee-based management tools, incentive structures, groundwater markets, and allocation systems. The document notes that a formal allocation program may be pursued if other management approaches do not sufficiently achieve sustainability objectives.

6.2.2.2.1 Current Status of the GSPs

In January 2022, DWR issued a determination that the three original GSPs and the Subbasin's coordination agreement, submitted in 2020, were "incomplete" under SGMA regulations (23 CCR §355.2(e)(2)). The specific deficiencies identified by DWR are listed below.

A. The Plan does not define sustainable management criteria for chronic lowering of groundwater levels in the manner required by SGMA and the GSP Regulations.

a. The GSPs do not define metrics for undesirable results and minimum thresholds based on avoiding a significant and unreasonable depletion of groundwater supply, informed by, and considering, the relevant and applicable beneficial uses and users in their Subbasin.

b. *The GSPs do not describe specific potential effects from the chronic lowering of groundwater levels and depletion of supply that would be significant and unreasonable to beneficial uses and users of groundwater, on land uses and property interests, and other potential effects and, therefore, constitute an undesirable result.*

c. *The GSPs do not consider how minimum thresholds developed for one sustainability indicator will affect other related sustainability indicators.*

B. *The Plan does not define sustainable management criteria, including undesirable results, minimum thresholds, and measurable objectives, for land subsidence in the manner required by SGMA and the GSP Regulations.*
   a. *The Greater Kaweah GSP and Mid-Kaweah GSP do not define metrics for undesirable results and minimum thresholds based on the amount of subsidence that would substantially interfere with land surface uses and users in their Subbasin, as required by SGMA and the GSP Regulations. The Greater Kaweah and Mid-Kaweah GSPs set minimum thresholds that would allow for up to 0.75 feet per year of continued subsidence (up to 15 feet over the next 20 years), but these thresholds are not designed to avoid undesirable results as required by the GSP Regulations.*
   b. *Discordant sustainable management criteria for land subsidence in the vicinity of the Friant Kern Canal established by the Greater Kaweah and East Kaweah GSPs are not supported by convincing technical information demonstrating that the Greater Kaweah thresholds will not adversely affect conditions in East Kaweah and prevent that part of the Subbasin from achieving its sustainability goal.*

C. *The Plan does not sufficiently and consistently characterize interconnected surface water nor define sustainable management criteria for the depletion of those interconnected surface waters in the manner required by SGMA and the GSP Regulations.*
   a. *While the Plan identifies locations where interconnected surface water is likely present in the Subbasin, it is not coordinated in its management efforts for the depletion of interconnected surface water.*
   b. *The Greater Kaweah GSP documents areas with likely interconnected surface water, as does the Coordination Agreement, but the Greater Kaweah GSA has not developed sustainable management criteria for interconnected surface water.*
   c. *The East Kaweah GSP elected to use groundwater level thresholds as a proxy for the depletion of interconnected surface water, but do not demonstrate adequate evidence showing those levels are an appropriate proxy.*

Pursuant to 23 CCR §355.2(e)(2), the GSAs had 180 days from DWR's determination to remedy the noted deficiencies, with July 27, 2022 serving as the resubmittal deadline. The agencies submitted amended GSPs on that date; however, on March 2, 2023, DWR determined that the revisions were still insufficient and issued an "inadequate" finding. DWR's detailed evaluation of the GSAs' corrective actions is provided in verbatim below.

> *Deficiency 1: The corrective action advised the Agencies to define sustainable management criteria for the chronic lowering of groundwater levels. The corrective action also advised the*

Agencies that if the GSPs intend to rely on mitigation actions to address impacts as a means to support the reasonableness of their sustainable management criteria then the GSPs should be revised to include specific details that will allow the Department to assess their feasibility and likely effectiveness. It is never expressly made clear what specific conditions the Plans are meant to avoid, which causes uncertainty in how the basin will be managed to achieve sustainability and precludes or impairs the Department's ability to evaluate the likelihood of the Plan to attain sustainability goals, and would prevent the Department and the public at large from monitoring progress towards any sustainability goal under that Plan. The minimum thresholds selected have not been selected based on the avoidance of undesirable results and significant and unreasonable impacts to beneficial uses and users. The Plan does not consider how minimum thresholds developed for one sustainability indicator will affect other related sustainability indicators. Also, the level of commitment to the Mitigation Framework and Mitigation Plans is unclear to the Department and the Department is unable assess the feasibility and likely effectiveness of the mitigation program(s). The Staff Report indicates that the Agencies did not take sufficient actions to correct this deficiency, which materially affects the ability of the Agencies to achieve sustainability and the ability of the Department to evaluate the likelihood of the Plan to achieve sustainability.

Deficiency 2: The corrective action advised the Agencies to define sustainable management criteria for the Mid-Kaweah Groundwater Sustainability Agency and Greater Kaweah Groundwater Sustainability Agency areas, and explain how minimum thresholds in the vicinity of identified critical infrastructure (i.e. the Friant Kern Canal) will not substantially interfere with the Canal's use. The Plan does not explain how it was determined that approximately 10 inches or greater amount of subsidence would result in a 10% or more capacity loss in the Subbasin's conveyance infrastructure. Department staff are still not fully able to evaluate how the management criteria for chronic lowering of groundwater levels will affect potentially localized inelastic subsidence which is a permanent condition in relation to water levels that may decline and rebound over time. The Staff Report indicates that the Agencies did not take sufficient actions to correct this deficiency, which materially affects the ability of the Agencies to achieve sustainability and the ability of the Department to evaluate the likelihood of the Plan to achieve sustainability.

Deficiency 3: The corrective action advised the Agencies to define sustainable management criteria for the East Kaweah Groundwater Sustainability Agency and Greater Kaweah Groundwater Sustainability Agency areas or if the GSAs do not have sufficient information at this time, they should identify depletion of interconnected surface water as a data gap and provide a plan to close the data gap as soon as possible. The resubmitted GSPs identify data gaps and propose the creation of a Work Plan culminating in the incorporation of key data into the 2025 GSP Update and set preliminary sustainable management criteria to be refined upon further research and data collection. While not yet fully consistent with the requirements of the GSP Regulations, the Agencies' efforts to address this deficiency are sufficient at this time, although further efforts and revisions will be required in subsequent GSP updates to align the sustainable management criteria for interconnected surface water with the GSP Regulations and Department guidance.

The GSAs have continued to make substantial progress in resolving the deficiencies previously identified by DWR, working closely with staff from the State Water Resources Control Board (SWRCB). In June 2024, the GSAs released three draft amended GSPs for public review and SWRCB feedback. After receiving comments from both the Board and the public, the GSAs prepared updated versions and issued the revised GSPs for review in October 2024. Subsequently, the GSAs adopted these updated plans in November 2024.

A probationary hearing had originally been scheduled for January 7, 2025; however, SWRCB postponed the hearing to allow additional time to evaluate the newly adopted 2024 GSPs. On December 2, 2025, the SWRCB adopted a resolution determining that a probationary designation was not necessary, and the Kaweah Subbasin would return to DWR oversight. DWR has not yet re-evaluated these 2024 amended GSPs and issued a new determination.

The long-term impacts of SGMA implementation in the Subbasin are not yet certain. The discussion of groundwater reliability within the Subbasin in this WSA is based on the recently adopted MKGSA and GKGSA 2024 GSPs, which include the projected water demands for Cal Water's Visalia District in the Water Budget's projections for the municipal and industrial pumping.

6.2.2.2.2 Sustainable Management Criteria

The GKGSA and MKGSA 2024 GSPs establish sustainable management criteria for groundwater levels in both the upper and lower aquifers of the Subbasin. Under the plans, Undesirable Results are triggered when groundwater elevations fall below the Minimum Thresholds (MTs) that are tied to the number of potentially impacted domestic wells and the GSAs' ability to implement mitigation actions for affected beneficial uses. These MTs were developed through the Subbasin-wide evaluation of annual groundwater level conditions and refined through collaboration among GSA staff, technical teams, and local stakeholders. Based on this analysis, the MKGSA and GKGSA determined that Undesirable Results would not occur if groundwater levels remain above the established MTs.

Groundwater level representative monitoring wells (RMWs) used for tracking conditions are identified in the 2024 GSPs. Current MTs in these wells average 44 feet below Fall 2022 water levels. In Water Year (WY) 2023, the Subbasin reported groundwater levels that exceeded several MTs, most notably in areas within or near the Visalia System. During the same period, the Subbasin recorded approximately 997,000 acre-feet of groundwater storage increase (Provost & Pritchard, 2024).

The MKGSA and GKGSA 2024 GSPs also establish management criteria for nine primary drinking water constituents, referencing state Maximum Contaminant Levels (MCLs). In WY 2023, nitrogen was the primary constituent of concern (COC). This constituent is tied to legacy conditions and long-term practices evaluated through the Irrigated Lands Regulatory Program (ILRP).

6.2.2.2.3 Groundwater Allocations and Water Budgets

Groundwater allocations are already being used in the Subbasin for agricultural water users. The GKGSA and MKGSA create and enforce the rules for these allocations. These rules do not apply to municipal and industrial users.

Each year before the new water year begins, the GKGSA announces how much water per acre landowners can use. This allocation has two parts:

1. **Native sustainable yield:** Every acre of land gets 0.62 AF of groundwater for free. This amount represents the long-term, sustainable amount of water available in the Subbasin.
2. **Temporary allocations (Tier 1 and Tier 2):** These are additional amounts of water based on past overdraft in the area. They will be reduced over time and are only available to land that has been historically irrigated. Landowners must pay to use this water, and Tier 2 costs more than Tier 1. Water use is counted in this order: first the free native yield, then Tier 1, and finally Tier 2.

For WY 2024, landowners with historically irrigated acreage in the GKGSA receive 0.62 AF native yield, 0.56 AF from Tier 1, and 0.69 AF from Tier 2 for a total of 1.87 AF per acre (GKGSA, 2024).

MKGSA uses a similar system. For WY 2024, MKGSA provides 0.83 AF per acre of native yield, 0.5 AF per acre from Tier 1, and 0.5 AF per acre from Tier 2 for a total of 1.83 AF per acre (MKGSA, 2024).

MKGSA set this groundwater allocation after creating an Emergency Ordinance in 2022 to limit how much groundwater farmers could pump. The ordinance was later extended and changed in 2023 to reduce pumping even more.

When the ordinance first passed, the MKGSA set a limit of 2.5 AF of water per acre per year for farms larger than four acres. This amount was based on how much groundwater the Subbasin can naturally supply and how much water the Water Accounting Framework said each parcel could use. If a farmer used less water than their limit, they were allowed to carry all the unused amount into the next year.

In October 2023, the MKGSA changed the rule again for WY 2024, lowering the limit from 2.5 AF/acre to 1.83 AF/acre. Of this amount, 0.83 AF/acre is the sustainable native groundwater supply. The remaining water was based on how much water TID added back into the aquifer in WY 2023. Under this update, only water that had been recharged into the groundwater system could be allocated for future use.

These pumping limits do not apply to cities or other municipal water users. The District stays involved in these decisions by serving on the GKGSA Board and Technical Advisory Subcommittee and participating in the MKGSA Advisory Subcommittee, so it can stay informed and involved in any future allocation or pumping-limit discussions.

The Proposed Project site has historically been used for production of wheat and almond crops. Approximately 43 acres of the site has been used for wheat crops with an additional 25 acres for almonds. In WY 2024, the site had a pumping allocation based solely on the GKGSA. Using the GKGSA groundwater allocation rate of 1.87 AF per acre, the site would have received a total pumping allocation of approximately 127 AFY. While these allocations will not apply to the Proposed Project, agricultural activities will cease and temporary groundwater allocations are planned for eventual phase-out, it is relevant that the site historically received a Subbasin groundwater allocation.

The Water Budget supporting the MKGSA and GKGSA 2024 GSPs include an updated estimate of groundwater demand associated with projected urban growth within the City of Visalia. These projections anticipate higher pumping needs than those reflected in the District's 2020 UWMP. For example, both the MKGSA and GKGSA 2024 GSPs incorporate an estimated municipal water demand of approximately 54,987 AFY by 2040, an increase of roughly 13,729 AFY above the 2040 demand identified in the 2020 UWMP (GKGSA, 2024).

The Proposed Project and other anticipated development within the Visalia area are not directly accounted for in the 2020 UWMP; however, these demands are implicitly included in the Subbasin-wide Water Budget and in the GSP's 2040 projections (for instance, the projected demands associated with the Proposed Project and other planned developments total approximately 42,923 AFY in 2040).

6.2.3 Groundwater Use and Supply

The District has a total of 59 active wells located within the Visalia PWS, two wells within the Mullen PWS, and one well within the Tulco PWS service area boundaries. Under CWC §10910(f)(3) and CGC §66473.7(2)(A), the volume of groundwater extracted by Cal Water within the District, including pumping historically associated with the Proposed Project site and adjacent development areas, must be evaluated. **Table 6-1** summarizes groundwater pumping from 2004-2024. Available groundwater supplies have historically been sufficient to meet all recorded demands.

Table 6-3 provides the District's projected groundwater pumping through 2045 under normal hydrologic conditions. The District's 2020 UWMP anticipates continued reliance on groundwater as a primary supply source through 2045 to satisfy all projected demands. Groundwater demands associated with the Proposed Project and other planned developments were not included in the 2020 UWMP. Consequently, these additional demands are conservatively added to the UWMP projections. Although the Project will increase total pumping, groundwater use is expected to remain below the volumes assumed in the relevant 2024 GSPs.

To maintain a dependable water supply for both existing and future customers, Cal Water implements an ongoing asset management program that prioritizes system reliability. This program includes proactive maintenance, facility upgrades, and improvements to aging infrastructure to preserve operational performance. Through continued reinvestment in system

assets and strategic expansion, Cal Water is positioned to meet long-term service demands throughout the District.

6.2.4 Analysis of Sufficiency of Groundwater Supply

The District's only water source is groundwater from the discussed Subbasins. While the 2020 UWMP projects adequate groundwater supply under all conditions for the District overall, the proposed Project's demands were not included in those projections. Therefore, an analysis of groundwater sufficiency to meet Project demands is required under CWC §10910(f)(5) and CGC §66473.7(a)(2)(E).

Groundwater supplies have historically met all District demands, and projected pumping (including the Proposed Project and other known developments) remains below the municipal volumes evaluated in the water budgets supporting the 2024 GSPs. District pumping represents a relatively small portion of total Subbasin groundwater use, most of which is agricultural. In WY 2023, the District pumped 28,159 AFY, accounting for about 49% of municipal and industrial pumping and approximately 9.1% of total Subbasin pumping (Cal Water, 2025).

While SGMA implementation introduces some long-term uncertainty, the primary driver of Subbasin sustainability will continue to be agricultural pumping, which far exceeds urban use. District pumping consistent with the adopted GSPs is not expected to adversely affect other groundwater users. Over time, growth within the District will likely replace irrigated agricultural land with urban development, which generally reduces overall consumptive use on a per-acre basis.

Cal Water's groundwater rights, established through overlying and appropriative use and dedicated to public service, are protected under CPUC requirements and California water law. Municipal and domestic uses hold priority over other water uses under CWC §§106 and 106.5. SGMA is intended to preserve, not alter, existing water rights. While SGMA implementation and the 2024 GSPs are not expected to limit groundwater availability for meeting projected District demands, future actions by the GKGSA, MKGSA, or the State Water Resources Control Board could introduce groundwater allocations, reporting requirements, or extraction-related fees.

6.2.4.1 Sustainable Yield Analysis

Groundwater from the Kaweah and Tule Subbasins has historically been sufficient to meet the Visalia District's demands. District pumping decreased during and after the 2012–2015 drought due to conservation measures, with average use falling to about 27,736 AFY between 2014 and 2019 compared to about 32,502 AFY in the prior decade.

It is also important to note that most groundwater pumping in the Kaweah Subbasin is for agricultural use. According to the Mid-Kaweah GSP water budget, average pumping from 1981–2017 was about 754,415 AFY, including roughly 685,375 AFY for irrigation and 69,040 AFY for municipal and industrial uses. This means M&I pumping represents about 9% of total use, and District pumping accounts for only a portion of that amount.

Groundwater conditions in the Tule Subbasin show a similar pattern. As described in the Tule East GSP, average pumping from 1986/87 through 2016/17 was about 712,200 AFY, with approximately 664,000 AFY used for agriculture and 19,400 AFY used for M&I purposes. District pumping in the Mullen System represents only a very small share of this M&I total.

Under state law, it's important to recognize that some farms and businesses in the District's service area use groundwater from the Subbasin even though they don't get water from the District. The Proposed Project will not affect these users because the District's groundwater pumping follows the rules in the GKGSA and MKGSA groundwater plans.

Given the District's proven ability to meet historical and the absence of any indication from GSAs in the Tule or Kaweah Subbasins that urban pumping will be restricted under GSP implementation, it is reasonable to conclude that groundwater from the Subbasins will be sufficient to meet the District's needs, including the Proposed Project.

Cal Water holds groundwater rights as both an overlying owner and appropriator, and these rights have been dedicated to public use. Under CPUC regulations, Cal Water must provide water to all customers within its service area under reasonable rules. California law prioritizes municipal water rights over other uses, including under SGMA. Domestic water use is recognized as the "highest use" of water in the state (CWC §106), and urban water purveyors' rights are protected to ensure both current and future needs (CWC §106.5).

SGMA was designed to preserve the security of water rights in the state to the greatest extent possible and does not alter or redefine surface or groundwater rights or priorities (CWC §§10720.1(b), 10720.5(a)-(b)). SGMA should not reduce, adversely impact, or limit Cal Water's present or future exercise of its domestic water rights or its obligation to serve its municipal customers, and Cal Water's rights should be subject to less restrictions and limitations than any other types of water rights or uses.

As the District grows (the District's UWMP projects that service area population will increase by more than 50% over the next 25 years), some land currently used for irrigated agriculture is expected to transition to residential and commercial development. Because agriculture generally uses more water per acre than urban land uses, this land-use change is likely to reduce overall groundwater demand within the subbasins over time.

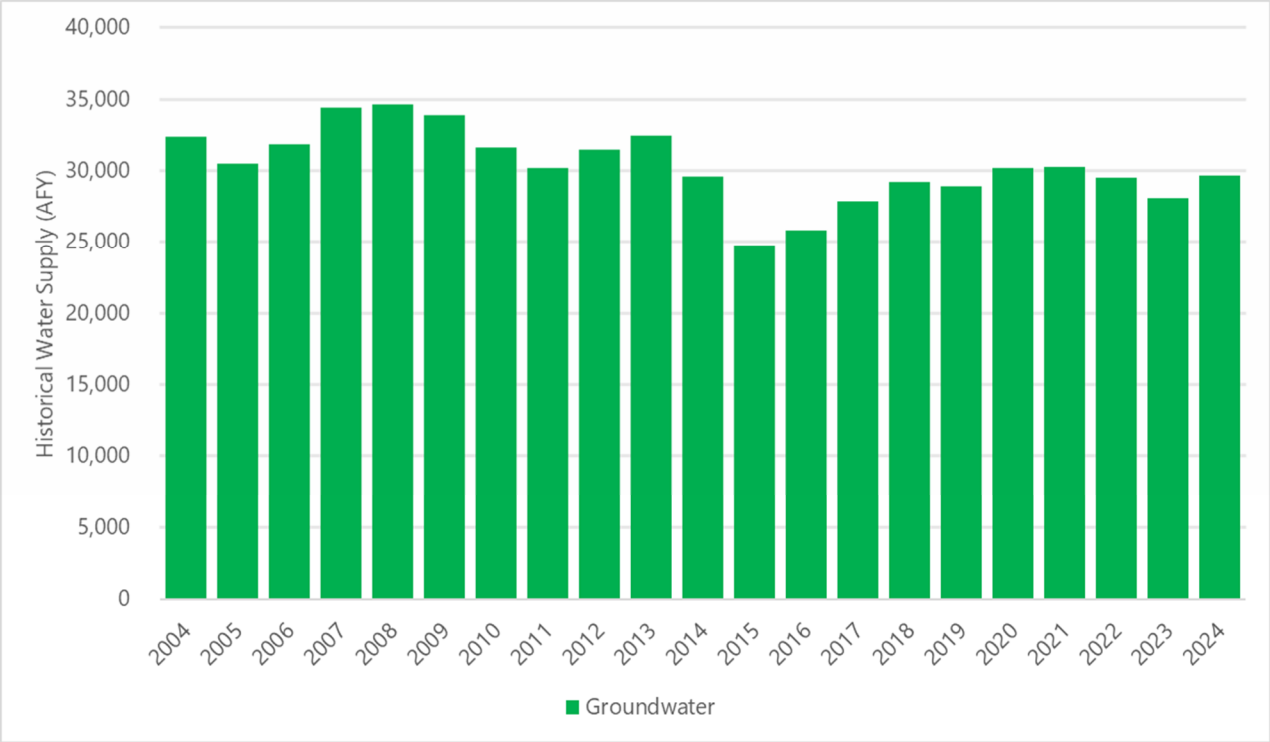
6.3 Historical and Current Water Supplies

As discussed in Section 6.2 above, demands in the District are met entirely by groundwater pumped from Kaweah Subbasin. Historical groundwater supply volumes are catalogued in **Table 6-1** and **Figure 6-2**.

TABLE 6-1: HISTORICAL WATER SUPPLY FOR THE VISALIA DISTRICT (2004-2024)

	Groundwater	Total Water Supply
2004	32,486	**32,486**
2005	30,701	**30,701**
2006	32,032	**32,032**
2007	34,625	**34,625**
2008	34,848	**34,848**
2009	34,065	**34,065**
2010	31,762	**31,762**
2011	30,260	**30,260**
2012	31,400	**31,400**
2013	32,360	**32,360**
2014	29,475	**29,475**
2015	24,675	**24,675**
2016	25,677	**25,677**
2017	27,698	**27,698**
2018	29,073	**29,073**
2019	28,654	**28,654**
2020	30,172	**30,172**
2021	30,166	**30,166**
2022	29,410	**29,410**
2023	27,985	**27,985**
2024	29,550	**29,550**

FIGURE 6-2. HISTORICAL 20-Year WATER SUPPLY (2004-2024), VISALIA DISTRICT



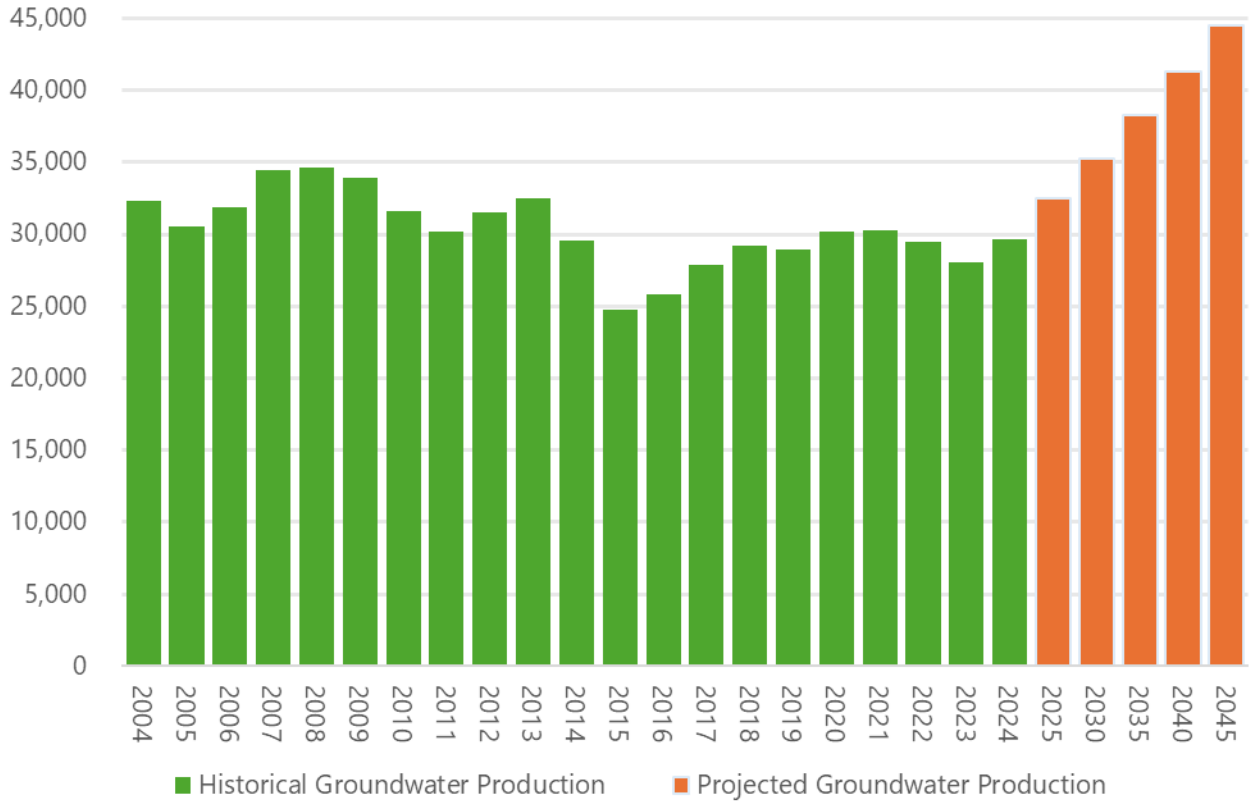
6.4 Projected Water Supplies

The District's 2020 UWMP projects that groundwater production will continue to meet and exceed District demands for the foreseeable future (Cal Water, 2021). **Table 6-2** and **Figure 6-3** display the forecasted groundwater supplies, which are assumed to be equal to the forecasted demands.

TABLE 6-2: HISTORICAL AND PROJECTED GROUNDWATER PRODUCTION 2004-2045 (AFY)

	Historical Groundwater Production	Projected Groundwater Production (2020 UWMP)	Projected Groundwater Production (Proposed Project)	Projected Groundwater Production (Other New Development)	Total Projected Groundwater Production
2004	32,486	-	-	-	-
2005	30,701	-	-	-	-
2006	32,032	-	-	-	-
2007	34,625	-	-	-	-
2008	34,848	-	-	-	-
2009	34,065	-	-	-	-
2010	31,762	-	-	-	-
2011	30,260	-	-	-	-
2012	31,400	-	-	-	-
2013	32,360	-	-	-	-
2014	29,475	-	-	-	-
2015	24,675	-	-	-	-
2016	25,677	-	-	-	-
2017	27,698	-	-	-	-
2018	29,073	-	-	-	-
2019	28,654	-	-	-	-
2020	30,172	-	-	-	-
2021	30,166	-	-	-	-
2022	29,410	-	-	-	-
2023	27,985	-	-	-	-
2024	29,550	-	-	-	-
2025	-	32,520	-	-	32,520
2030	-	35,276	209	821	36,305
2035	-	38,310	209	999	39,517
2040	-	41,258	209	1,456	42,923
2045	-	44,529	209	1,623	46,361

FIGURE 6-3. HISTORICAL (2004-2024) AND PROJECTED (2025-2045) GROUNDWATER PRODUCTION



6.5 Water Conservation & Demand Management

The Visalia District is subject to the administration of Cal Water's conservation programs, which are described in detail in the District's 2020 UWMP (Cal Water, 2021). These programs are designed to ensure water reliability during normal and shortage conditions and include staged response actions outlined in the District's Water Shortage Contingency Plan (WSCP). The District's Conservation Master Plan integrates with actions described in its UWMP and WSCP by providing guidance for ongoing conservation programs, including appliance and turf rebates and public education. As described in the District's 2020 UWMP, Cal Water's demand management policies largely fit into the following categories: water waste prevention ordinances, metering, conservation pricing, public education and outreach, and management of real distribution system losses.

6.6 Water Supply Availability in Normal, Single Dry, and Multiple Dry Years

> *CWC § 10910 (c)(3) If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall 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 public water system's existing and planned future uses, including agricultural and manufacturing uses.*

The following estimates of supplies in normal, single dry, and multiple dry year hydrologic conditions are derived from the District's 2020 UWMP (Cal Water, 2021). According to the District's 2020 UWMP, its available groundwater supplies "…are expected to be sufficient to meet projected water demands of the District under all hydrologic conditions, including normal, single dry, and multiple dry years." As the District only pumps the groundwater volume necessary to meet demands, reported supply volumes in this analysis do not represent the total available supply, and instead reflect that supplies are expected to be adequate to meet future demands, regardless of hydrologic conditions.

Historically, the District has not experienced supply shortfalls, even in years with higher demands than those forecasted. The District has been able to meet demands up to 34,848 AFY without experiencing any supply constraints.

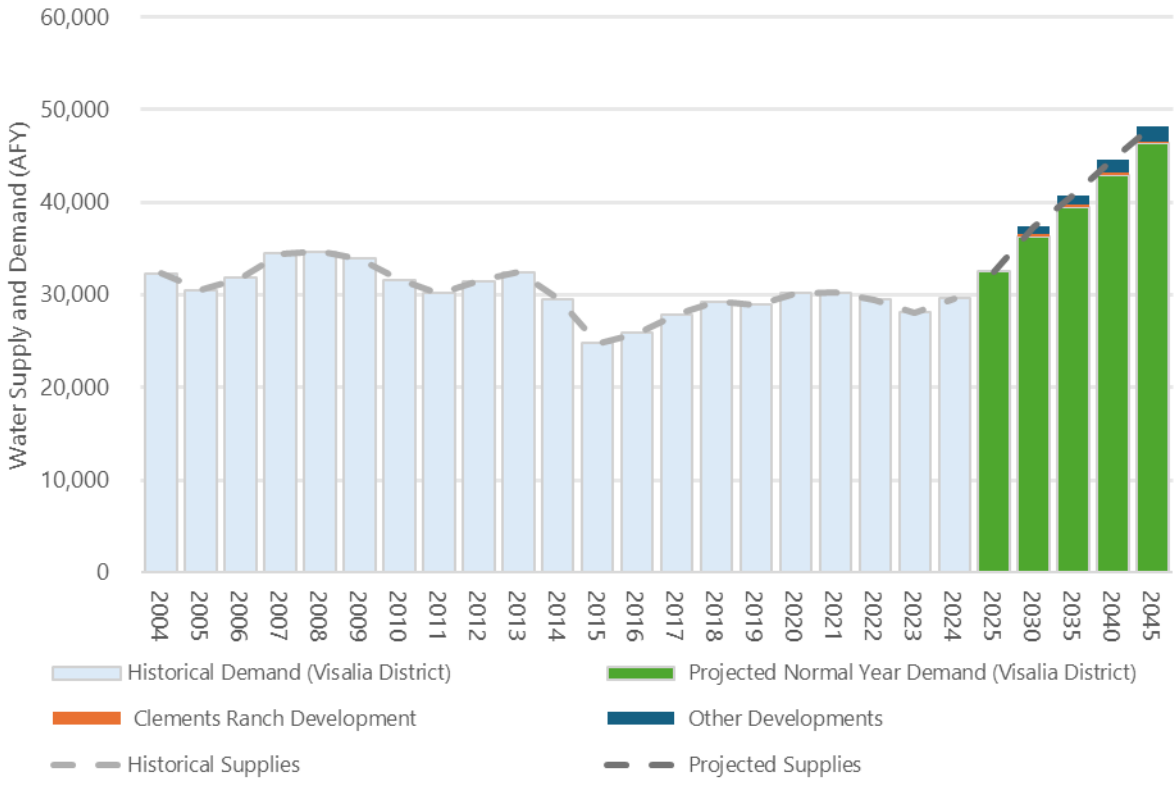
6.6.1 Normal Year

A normal hydrologic year represents the supplies available under normal conditions. The UWMP uses 1991 climatic conditions to represent a normal year. In a normal year, the District's potable water supplies are expected to meet all demands inclusive of the proposed Project ("Clements Ranch Development" in the following tables and figures), as shown in **Table 6-3** and **Figure 6-4**.

TABLE 6-3: PROJECTED NORMAL YEAR WATER SUPPLY AND DEMAND (AFY)

	2025	2030	2035	2040	2045
Total Supply	**32,520**	**36,305**	**39,517**	**42,923**	**46,361**
Visalia District Demand	32,520	35,276	38,310	41,258	44,529
Clements Ranch Demand	0	209	209	209	209
Other Developments	0	821	999	1,456	1,623
Total Potable Water Demand Inclusive of Project	**32,520**	**36,305**	**39,517**	**42,923**	**46,361**
Difference	**0**	**0**	**0**	**0**	**0**
Supply Shortfall (% of Demand)	**None**	**None**	**None**	**None**	**None**

FIGURE 6-4. HISTORICAL (2004-2024) AND PROJECTED (2025-2045) NORMAL YEAR WATER SUPPLY AND DEMAND



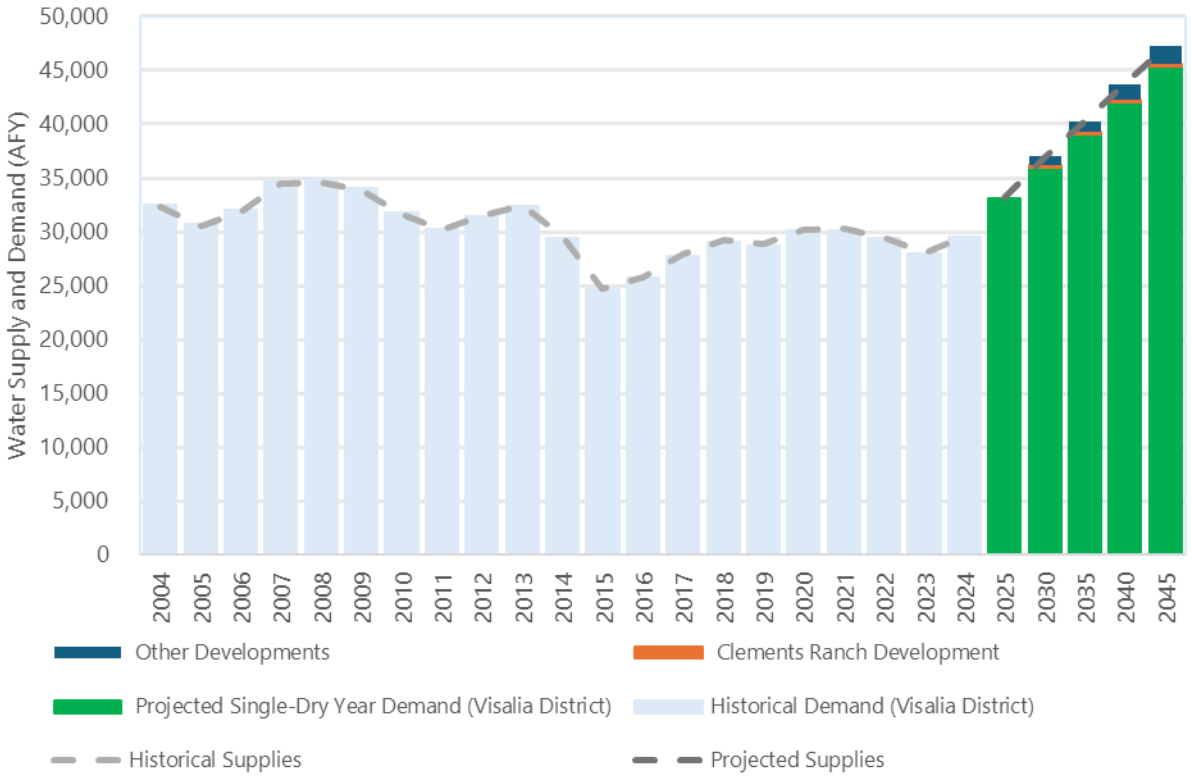
6.6.2 Single Dry Year

A single dry year represents the lowest available water supply. As described above, groundwater supplies are expected to be able to meet all demands in all year types. Therefore, supply changes from a normal to single dry year are based upon forecasted usage reductions and other demand regulations, as forecasted in the District's 2020 UWMP (Cal Water, 2021). During a single dry year, supplies are projected to meet District demands inclusive of proposed Project demands and other development demands, as shown in **Table 6-4** and **Figure 6-5**.

TABLE 6-4: PROJECTED SINGLE DRY YEAR WATER SUPPLY AND DEMAND (AFY)

	2025	2030	2035	2040	2045
Total Supply	**33,152**	**36,992**	**40,265**	**43,728**	**47,232**
Visalia District Demand	33,152	35,962	39,057	42,063	45,400
Clements Ranch Demand	0	209	209	209	209
Other Developments	0	821	999	1,456	1,623
Total Potable Water Demand Inclusive of Project	33,152	36,992	40,265	43,728	47,232
Difference	0	0	0	0	0
Supply Shortfall (% of Demand)	**None**	**None**	**None**	**None**	**None**

FIGURE 6-5. HISTORICAL (2004-2024) AND PROJECTED (2025-2045) SINGLE DRY YEAR WATER SUPPLY AND DEMAND



6.6.3 Multiple Dry Years

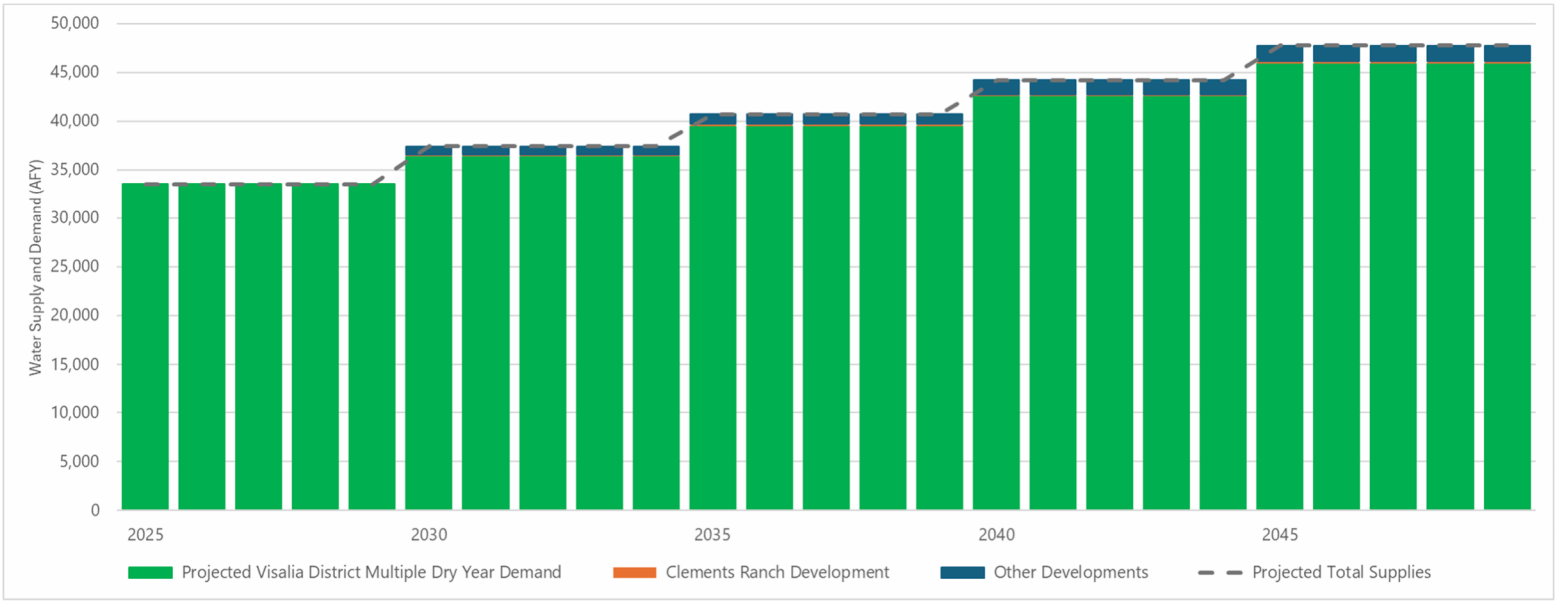
Multiple dry years represent the driest consecutive 5-year period, or the 5-year period with the lowest available water supply. The UWMP uses 2011-2015, which was the driest 5-year period within the range of years of 1980-2019. As described above, groundwater supplies are expected to be able to meet all demands in all year types. Therefore, supply changes from a normal year to multiple dry years are based upon forecasted usage reductions and other demand regulations.

In a multiple dry year scenario, supplies are projected to meet the District's demands, including proposed Project demands and other development demands, as shown in **Table 6-5**. **Figure 6-6** displays supplies and demands in the multiple dry year scenario for 2025 to 2045.

TABLE 6-5: PROJECTED MULTIPLE DRY YEAR WATER SUPPLY AND DEMAND (AFY)

Start Year	2025					2030					2035					2040					2045				
Year #	**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**
Total Supply	33,543	33,543	33,543	33,543	33,543	37,417	37,417	37,417	37,417	37,417	40,728	40,728	40,728	40,728	40,728	44,227	44,227	44,227	44,227	44,227	47,771	47,771	47,771	47,771	47,771
Visalia District	33,543	33,543	33,543	33,543	33,543	36,387	36,387	36,387	36,387	36,387	39,520	39,520	39,520	39,520	39,520	42,562	42,562	42,562	42,562	42,562	45,939	45,939	45,939	45,939	45,939
Clements Ranch Develop-ment	-	-	-	-	-	209	209	209	209	209	209	209	209	209	209	209	209	209	209	209	209	209	209	209	209
Other Develop-ments	-	-	-	-	-	821	821	821	821	821	999	999	999	999	999	1,456	1,456	1,456	1,456	1,456	1,623	1,623	1,623	1,623	1,623
Total Potable Water Demand	33,543	33,543	33,543	33,543	33,543	37,417	37,417	37,417	37,417	37,417	40,728	40,728	40,728	40,728	40,728	44,227	44,227	44,227	44,227	44,227	47,771	47,771	47,771	47,771	47,771
Supply Shortfall	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

FIGURE 6-6. PROJECTED MULTIPLE DRY YEAR WATER SUPPLY AND DEMAND



7. WATER SUPPLY SUFFICIENCY

7.1 Comparison of Supply & Demand

CWC § 10910 (c)(3) If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall 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 public water system's existing and planned future uses, including agricultural and manufacturing uses.

CGC § 66473.7 (a)(2) "Sufficient water supply" means the total water supplies available during normal, single-dry, and multiple-dry years within a 20-year projection that will meet the projected demand associated with the proposed subdivision, in addition to existing and planned future uses, including, but not limited to, agricultural and industrial uses. In determining "sufficient water supply," all of the following factors shall be considered:

(A) The availability of water supplies over a historical record of at least 20 years.

(B) The applicability of an urban water shortage contingency analysis prepared pursuant to Section 10632 of the Water Code that includes actions to be undertaken by the public water system in response to water supply shortages.

(C) The reduction in water supply allocated to a specific water use sector pursuant to a resolution or ordinance adopted, or a contract entered into, by the public water system, as long as that resolution, ordinance, or contract does not conflict with Section 354 of the Water Code.

(D) The amount of water that the water supplier can reasonably rely on receiving from other water supply projects, such as conjunctive use, reclaimed water, water conservation, and water transfer, including programs identified under federal, state, and local water initiatives such as CALFED and Colorado River tentative agreements, to the extent that these water supplies meet the criteria of subdivision (d).

(a)(3) If the written verification provided by the applicable public water system indicates that the public water system is unable to provide a sufficient water supply that will meet the projected demand associated with the proposed subdivision, then the local agency may make a finding, after consideration of the written verification by the applicable public water system, that additional water supplies not accounted for by the public water system are, or will be, available prior to completion of the subdivision that will satisfy the requirements of this section. This finding shall be made on the record and supported by substantial evidence.

(e) If there is no public water system, the local agency shall make a written finding of sufficient water supply based on the evidentiary requirements of subdivisions (c) and (d) and identify the mechanism for providing water to the subdivision.

(f) In making any findings or determinations under this section, a local agency, or designated advisory agency, may work in conjunction with the project applicant and the public water system to secure water supplies sufficient to satisfy the demands of the proposed subdivision. If the local agency secures water supplies pursuant to this subdivision, which supplies are acceptable to and approved by the governing body of the public water system as suitable for delivery to customers, it shall work in conjunction with the public water system to implement a plan to deliver that water supply to satisfy the long-term demands of the proposed subdivision.

CGC § 66473.7 (j) The determinations made pursuant to this section shall be consistent with the obligation of a public water system to grant a priority for the provision of available and future water resources or services to proposed housing developments that help meet the city's or county's share of the regional housing needs for lower income households, pursuant to Section 65589.7.

(o) Any action challenging the sufficiency of the public water system's written verification of a sufficient water supply shall be governed by Section 66499.37.

According to the Water Code, WSAs must assess whether a water purveyor's projected supplies will be sufficient to meet its existing demands in addition to proposed Project demands in normal, single dry, and multiple dry year hydrologic scenarios. Section 6.6 provides comparisons of District demands and supplies in all required scenarios. Under all scenarios, available water supplies are expected to be sufficient to meet the District's demands inclusive of the proposed Project and other known development demands. The District's groundwater supplies have always met its demands, even during extended drought periods.

7.2 Finding of Water Supply Sufficiency

The analyses completed as part of this WSA find that the District's water supply is expected to be sufficient to provide for the District's existing demands in addition to the demands of the proposed Project. The inclusion of Project demands is not expected to lead to any actual supply shortfalls.

Cal Water is committed to the development needs of the proposed Project and will be able to provide water service, with infrastructure tailored to the proposed Project's plans. This infrastructure includes, but is not limited to, transmission lines, distribution systems, meters, and water system monitoring. Cal Water anticipates collaborating with the Project Proponent, the City/County, and the SWRCB Division of Drinking Water throughout the design, construction, and operation phases. Cal Water will need to ensure that all current and future state standards are met regarding pipe sizes, fire flows, equipment, and materials and will be responsible for ongoing operations, maintenance, and design of any proposed constructed water facilities. Cal Water may require additional facilities to provide water service to the proposed Project depending on the pressure zone's specific needs for pressures and flows. To accomplish this, Cal Water may request dedication of parcels of land for the future needs of pumped storage and/or additional well supply. Additional evaluation may be needed to determine the optimized location and required minimum area. Cal Water's commitment to the development needs of the proposed Project may need to be reassessed in the case of changing water supply conditions within the District and will expire five years after the date of this WSA if the proposed Project has not begun construction and made on-going progress towards completion.

8. CONCLUSIONS

According to the Water Code, the purpose of a WSA is to evaluate the sufficiency of a purveyor's water supply to meet future water demands, including those associated with the proposed Project, during normal, single dry, and multiple dry hydrologic years for a 20-year time horizon.

As described in Section 4, the total water demand of the proposed Project has been conservatively estimated. As discussed in Section 5, these demands and other development demands are considered additive to the projected water demand growth in the adopted 2020 UWMP. As discussed in Section 6, groundwater supply to the District is considered reliable based on the findings of the 2020 UWMP and review of the GSPs for the Mid-Kaweah GSA, the Greater Kaweah GSA, and the ETGSA. Therefore, sufficient water supply is estimated to be available to Cal Water to meet the future District demands inclusive of the additive demands associated with the proposed Project from 2025 through 2045 under all hydrologic conditions (i.e., current and projected, and for normal, single dry, and multiple dry years including a five-year drought period).

This WSA concludes that sufficient water supply is available to the District to meet all future demands associated with current and planned development within its service area, including those of the proposed Project. The proposed Project lies within the jurisdictions of the MKGSA and the GKGSA. Although water use for the proposed Project is currently consistent with the GKGSA and MKGSA GSPs, the GKGSA, MKGSA, or another governing entity (e.g., SWRCB) may adopt and/or implement policies or management actions that could include groundwater allocations for urban users, groundwater extraction reporting requirements, or potential fees associated with groundwater extraction in the future. Should such policies or actions limit access to groundwater, Cal Water may need to undertake additional measures to mitigate any potential impacts on water supply reliability.

9. REFERENCES

23 CCR 2.2.7 § 490-495. (2025). *Title 23 of the California Code of Regulations Division 2, Chapter 2.7 Model Water Efficient Landscape Ordinance § 490-495*.

AB 1572. (2023). *Potable water: nonfunctional turf*. Retrieved from California Legislature. Assembly Bill 1572. Chapter 849, Statutes of 2023: https://calmatters.digitaldemocracy.org/bills/ca_202320240ab1572

Cal Water. (2019). *Cal Water WSA Water Factor Tool*. Developed by M. Cubed.

Cal Water. (2021). *2020 Urban Water Management Plan, Visalia District*.

Cal Water. (2025). *Historical water use data provided by Cal Water*.

CALGreen. (2022). *California Green Building Standards Code, Title 24, Part 11*. Retrieved from https://codes.iccsafe.org/content/CAGBC2022P1

California Department of Water Resources. (2003). *Guidebook for Implementation of Senate Bill 610*.

California Department of Water Resources. (2015). *Landscape, Irrigation, Water Budget Overview*. Retrieved from 2015 Model Water Efficient Landscape Ordinance Guidebook: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Water-Use-And-Efficiency/Urban-Water-Use-Efficiency/MWELO-Files/MWELO-Guidebook/C--Landscape-Irrigation-Water-Budget-Overview.pdf

California Department of Water Resources. (2019). *Sustainable Groundwater Management Act 2018 Basin Prioritization, State of California*.

California Water Code § 10910. (2024).

California Water Code § 10912. (2024).

California Water Service. (2022; 2023; 2024). *CWS Visalia Water District Water Audits*. Retrieved from Water Audit Data Reports: https://wuedata.water.ca.gov/awwa_plans

DWR. (2025, March 11). *CADWR Land Use Viewer*. Retrieved from https://gis.water.ca.gov/app/CADWRLandUseViewer/?page=home

ETGSA. (2021). *Revised Groundwater Sustainability Plan*. Retrieved from https://ckgsa.org/wp-content/uploads/2022/10/CKGSA-GSP-ADOPTED-2022-Update-Secure.pdf

GKGSA. (2024). *Second Amended November 2024 Groundwater Sustainability Plan*.

MKGSA. (2024). *Second Amended November 2024 Groundwater Sustainability Plan*.

MKGSA. (2025). *Mid Kaweah Groundwater Sustainability Agency 2024 Overview*.

Provost & Pritchard. (2024). *Kaweah Subbasin Water Year 2023 Annual Monitoring Report*.

APPENDIX A: CLEMENTS RANCH OPERATIONAL STATEMENT

Visalia Clements Ranch Operational Statement

QK has prepared a Site Plan for of Assessor Parcel Numbers (APNs) 127-020-21 and -20. The Project site is to be developed as single-family homes consistent with the intent of the General Plan. The Project can move forward based on existing development code requirements, physical conditions, and the existing environment. However, we will recommend amendments to the Project site in order to reduce any significant environmental, economic, and physical impacts.

There are two lot sizes proposed for the site. The Low Density will have 50x100 lots, consistent with the low density 5,000 square foot lots. The Medium Density portion will have 38x72 lots, 2,736 square feet roughly 250 square feet below the minimum lot size. The Medium Density area will have a planned unit development to allow for smaller lot sizes, private streets and will be a gated community. There are two points of access to both the Low Density and Medium Density proposed on Lovers Lane and Sunny Side Avenue.

R-M-2 - Setbacks

Front – 15ft

Side – 4ft / Corner- 10 feet

Rear – 15 feet

The proposed Project will maintain its consistency with the City of Visalia General Plan as much as possible. The Project site is located southeast of the City of Visalia (City), adjacent to the city limits (Urban Growth Boundary II). The site consists of two separate APNs, which total roughly 75 acres. The Project site has three existing General Plan land use designations: Residential Low-Density, Residential Medium-Density, and Residential High-Density. As a facet of the Project, the General Plan land uses are proposed to be rearranged within the overall Project site. The proposal to shift the land uses is to make the Project site more developable and allow for each land use to have better access and circulation. The land use arrangement will take into account local General Plan and Municipal Code policies, in addition to State Law (SB 330), Senate Bill 330, or the Housing Crisis Act of 2019, which facilitates housing production in California. SB 330 addresses the State's housing crisis in multiple parts. However, the one regulation that is applicable to the alteration of land uses is commonly referred to as the "No Net Loss" provision.

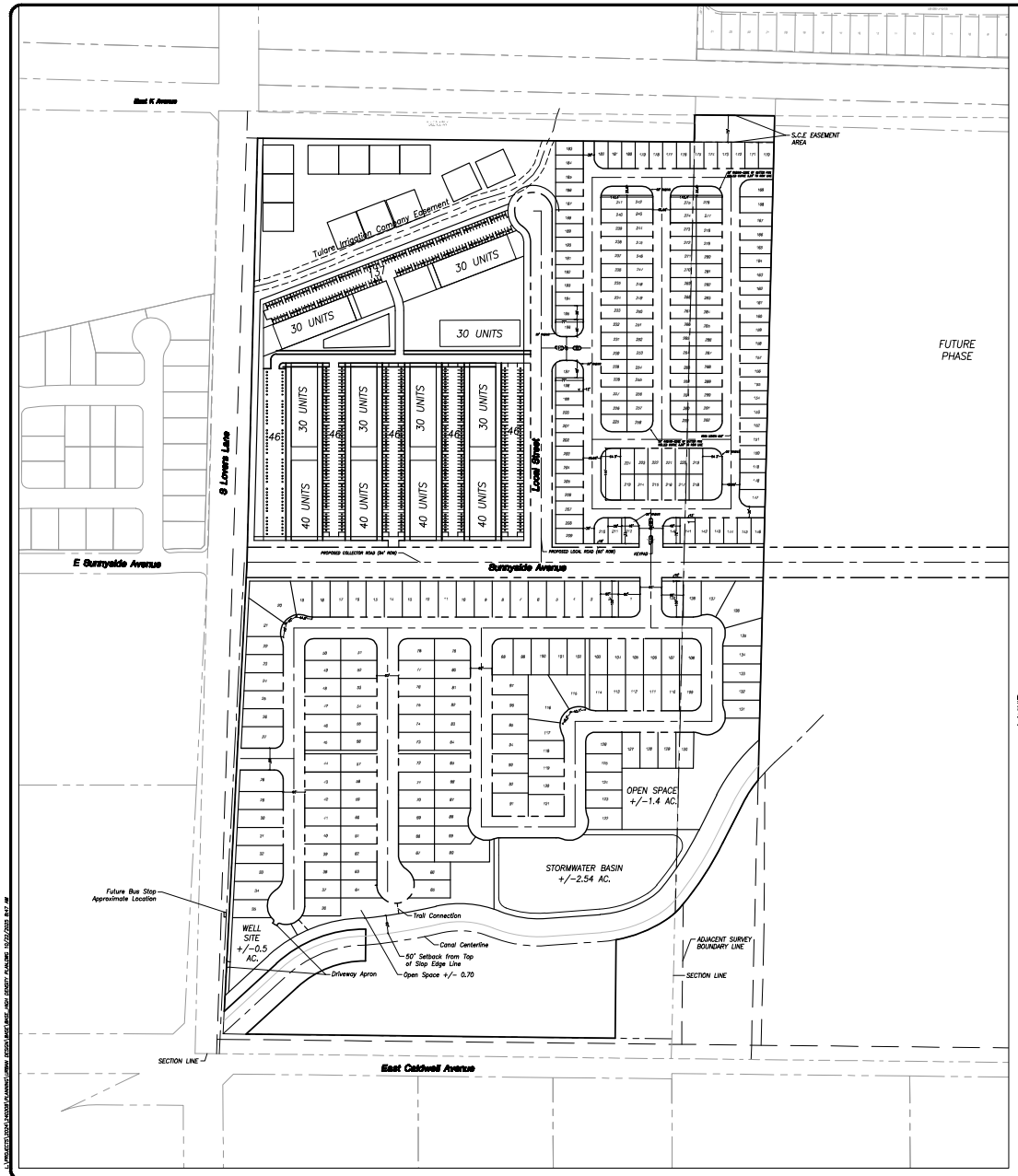
SB 330 prohibits the redesignation of land where housing is an allowable use by changing or applying general plan, specific plan, or zoning criteria that would reduce the intensity of land use below that which was allowable on January 1, 2018. There is an exception to this; a reduction in housing intensity is allowed if the reduced density is concurrently made up elsewhere within the jurisdiction. Therefore, as a part of the Project design, the General Plan land use amendment must have a net zero change as it relates to density. The site will rearrange the existing land uses in a manner that does not reduce residential density or land use types.

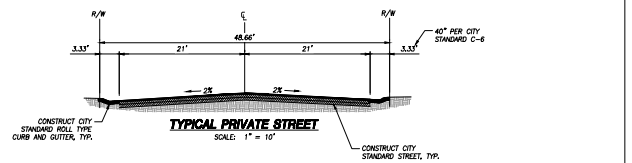
The Project will require the establishment of a Zoning District that is consistent with the underlying General Plan land use. Below is a list of the Zone Districts that will be established consistently with the land use. The allowed densities are shown in Table 2.

- High-Density Residential Land Use – R-M-3 (Multi-family Residential 1,200 SF Lots)
- Medium-Density Residential Land Use – R-M-2 (Multi-family Residential 3,000 SF Lots)
- Low-Density Residential Land Use - R-1-5 (Single-family Residential 5,000 SF Lots)

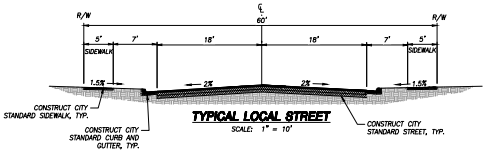
The Trail section on the proposed map is intended to be dedicated to the city for further build out.

APPENDIX B: CLEMENTS RANCH SITE PLAN

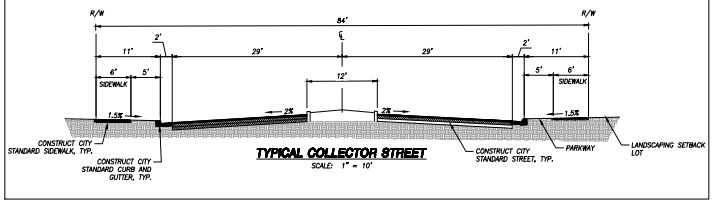




TYPICAL PRIVATE STREET
SCALE: 1" = 10'



TYPICAL LOCAL STREET
SCALE: 1" = 10'



TYPICAL COLLECTOR STREET
SCALE: 1" = 10'

LEGEND

- ADJACENT PARCEL LINE
- EXISTING DIRT ROAD
- EXISTING EASEMENT LINE
- EXISTING RIGHT OF WAY LINE
- PROPERTY BOUNDARY LINE
- PROPOSED RIGHT OF WAY LINE
- SECTION LINE

PROPOSED SUMMARY TABLE

	NO. OF UNITS	GROSS ACRES	GROSS DENSITY (UNITS/ACRE)	PROPOSED ZONE
50' x 100' LOTS AND PUBLIC STREETS:	139	29.8	4.66	R-1-5
38' x 72' LOTS AND PRIVATE STREETS:	153	15.3	10.0	R-M-2
TOTAL	**292**	**45.1**		
HOA OPEN SPACE (PRIVATE):	N/A	0.80		
OPEN SPACE (PUBLIC):	N/A	2.73		
TOTAL	**N/A**	**3.53**		

NOTES

1. PROPERTY OWNER: HAROLD DEAN CLEMENTS
2. APN: 127-020-020 AND 127-020-021
3. PROJECT CONTACT: QK ERNIE ESCOBEDO (559)449-2400

GENERAL INFORMATION

OWNER:
Harold Dean Clements

SUBDIVIDER:
D.R Horton, America's Builder
419 W. Murray Avenue
Visalia, CA 93231
(559) 636-9850

ASSESSOR'S PARCEL NUMBER:
127-020-020 and 127-020-021

SITE ADDRESS:
Southeast Corner of East K Avenue and South of Lovers Lane

SITE AREA:
Net (+/- 50.1 AC.)
Gross (+/- 75.0 AC.)

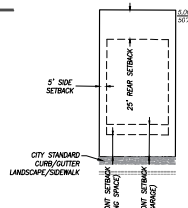
PROPOSED ZONING:
R-1-5 AND R-M-2

PROPOSED GENERAL PLAN LAND USE:
Residential Low, Residential Medium, and Residential High Density and Conservation

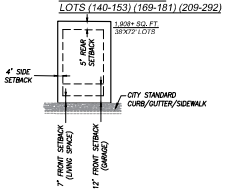
EXISTING GENERAL PLAN LAND USE:
Residential Low, Residential Medium, and Residential High Density and Conservation

EXISTING ZONING:
AE20 (Exclusive Agriculture, 20-Acre Minimum) (Tulare County)

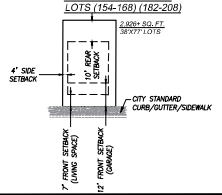
NON-GATED COMMUNITY TYPICAL SETBACK DIMENSIONS
LOW RESIDENTIAL
LOTS (1-139)



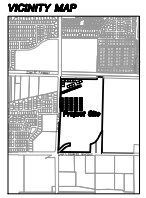
GATED COMMUNITY TYPICAL SETBACK DIMENSIONS
MEDIUM RESIDENTIAL
LOTS (140-153) (169-181) (209-292)

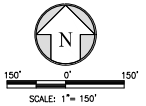


GATED COMMUNITY TYPICAL SETBACK DIMENSIONS
MEDIUM RESIDENTIAL
LOTS (154-168) (182-208)



VICINITY MAP





SCALE: 1"= 150'

PROJECT NO.: 240208
DRAWN BY: MH
CK'D BY: ED / RB
SCALED: 1"=150'-0"
SHEET NO.: 01 OF 02

CLEMENTS RANCH SITE PLAN
APN: 127-020-020 AND 127-020-021

QK CALL BEFORE YOU DIG 1-800-642-2444 BAKERSFIELD, CLOVIS, HANFORD, HERCES, PORTERVILLE, VISALIA
COPYRIGHT BY QUAD KNOPF, INC. UNAUTHORIZED USE PROHIBITED

APPENDIX C: VISALIA DISTRICT AWWA WATER AUDITS

AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0
American Water Works Association.

? Click to access definition
+ Click to add a comment

Water Audit Report for: CWS VIS Visalia (CA5410016)
Reporting Year: 2021 | 1/2021 - 12/2021

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the

All volumes to be entered as: ACRE-FEET PER YEAR

To select the correct data grading for each input, determine the highest grade where

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

Volume from own sources:	+ ?	5	30,278.782	acre-ft/yr	+ ?	3	Pcnt:	Value: 0.000	acre-ft/yr
Water imported:	+ ?	n/a	0.000	acre-ft/yr	+ ?				acre-ft/yr
Water exported:	+ ?	n/a	0.000	acre-ft/yr	+ ?				acre-ft/yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 30,278.782 acre-ft/yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

Billed metered:	+ ?	7	29,319.161	acre-ft/yr		
Billed unmetered:	+ ?	n/a	0.000	acre-ft/yr		
Unbilled metered:	+ ?	n/a	0.000	acre-ft/yr		
Unbilled unmetered:	+ ?	5	75.697	acre-ft/yr	Pcnt:	Value: 75.697 acre-ft/yr

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: ? 29,394.858 acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption)

883.923 acre-ft/yr

Apparent Losses

Unauthorized consumption:	+ ?		75.697	acre-ft/yr	Pcnt: 0.25%	Value: acre-ft/yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	+ ?	5	598.350	acre-ft/yr	2.00%	acre-ft/yr
Systematic data handling errors:	+ ?		73.298	acre-ft/yr	0.25%	acre-ft/yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: ? 747.345 acre-ft/yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: ? 136.578 acre-ft/yr

WATER LOSSES: 883.923 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: ? 959.620 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	+ ?	8	612.3	miles
Number of active AND inactive service connections:	+ ?	9	47,217	
Service connection density:	?		77	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: + ? (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: + ? 7 55.0 psi

COST DATA

Total annual cost of operating water system:	+ ?	10	$25,624,618	$/Year
Customer retail unit cost (applied to Apparent Losses):	+ ?	10	$1.62	$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	+ ?	5	$93.24	$/acre-ft

☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 63 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Customer metering inaccuracies
3: Variable production cost (applied to Real Losses)

AWWA Free Water Audit Software: Worksheet

FWAS v6.0
American Water Works Association.

Water Audit Report for: CWS VIS Visalia
Audit Year: 2023 | Jan 01 2022 - Dec 31 2022 | Calendar Year

Click 'n' to add notes
Click 'g' to determine data validity grade

To edit water system info: go to start page

To access definitions, click the input name

All volumes to be entered as: ACRE-FEET PER YEAR

Water Supplied Error Adjustments

WATER SUPPLIED

choose entry option:

VOS	Volume from Own Sources:	n	g	5	29,488.709	Acre-ft/Yr	n g 8	volume	18.508	acre-ft/yr	over-registration VOSEA
WI	Water Imported:	n	g	n/a	0.000	Acre-ft/Yr					WIEA
WE	Water Exported:	n	g	n/a	0.000	Acre-ft/Yr					WEEA
	WATER SUPPLIED:				29,470.201	Acre-ft/Yr					

AUTHORIZED CONSUMPTION

choose entry option:

BMAC	Billed Metered:	n	g	8	28,584.114	Acre-ft/Yr		
BUAC	Billed Unmetered:	n	g	n/a	0.000	Acre-ft/Yr		
UMAC	Unbilled Metered:	n	g	n/a	0.000	Acre-ft/Yr		
UUAC	Unbilled Unmetered:	n	g	3	71.460	Acre-ft/Yr	0.25%	default

Default option selected for Unbilled Unmetered, with automatic data grading of 3

AUTHORIZED CONSUMPTION: 28,655.575 Acre-ft/Yr

WATER LOSSES

814.627 Acre-ft/Yr

Apparent Losses

choose entry option:

Default option selected for Systematic Data Handling Errors, with automatic data grading of 3

SDHE	Systematic Data Handling Errors:	n	g	3	71.460	Acre-ft/Yr	0.25%	default	
CMI	Customer Metering Inaccuracies:	n	g	6	583.349	Acre-ft/Yr	2.00%	percent	under-registration
UC	Unauthorized Consumption:	n	g	3	71.460	Acre-ft/Yr	0.25%	default	

Default option selected for Unauthorized Consumption, with automatic data grading of 3

Apparent Losses: 726.270 Acre-ft/Yr

Real Losses

Real Losses: 88.357 Acre-ft/Yr

WATER LOSSES: 814.627 Acre-ft/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 886.087 Acre-ft/Yr

SYSTEM DATA

Lm	Length of mains:	n	g	10	627.4	miles	(including fire hydrant lead lengths)
Nc	Number of service connections:	n	g	8	47,991		(active *and* inactive)
	Service connection density:				76	conn./mile main	

Are customer meters typically located at the curbstop/property line? Yes

Lp n g 10

Average length of customer service line has been set to zero and a data grading of 10 has been applied

AOP	Average Operating Pressure:	n	g	8	62.9	psi

COST DATA

CRUC	Customer Retail Unit Charge:	n	g	10	$1.65	$/100 cubic feet (ccf)	Total Annual Operating Cost	
VPC	Variable Production Cost:	n	g	10	$104.24	$/acre-ft	$26,860,133	$/yr (optional input)

WATER AUDIT DATA VALIDITY TIER:

***** The Water Audit Data Validity Score is in Tier III (51-70). See Dashboard tab for additional outputs. *****

go to dashboard

A weighted scale for the components of supply, consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION TO IMPROVE DATA VALIDITY:

Based on the information provided, audit reliability can be most improved by addressing the following components:

1: Volume from Own Sources (VOS)
2: Billed Metered (BMAC)
3: Unauthorized Consumption (UC)

KEY PERFORMANCE INDICATOR TARGETS:

OPTIONAL: If targets exist for the operational performance indicators, they can be input below:

Unit Total Losses:		gal/conn/day
Unit Apparent Losses:		gal/conn/day
Unit Real Losses[A]:		gal/conn/day
Unit Real Losses[B]:		gal/mile/day

If entered above by user, targets will display on KPI gauges (see Dashboard)

AWWA Free Water Audit Software: Worksheet

FWAS v6.0
American Water Works Association.

Water Audit Report for: CWS VIS Visalia
Audit Year: 2023 | Jan 01 2023 - Dec 31 2023 | Calendar Year

Click 'n' to add notes
Click 'g' to determine data validity grade

To edit water system info: go to start page

To access definitions, click the input name

All volumes to be entered as: ACRE-FEET PER YEAR

Water Supplied Error Adjustments

WATER SUPPLIED

choose entry option:

		n	g				n	g				
VOS	Volume from Own Sources:	n	g	6	28,062.105	Acre-ft/Yr	n	g	8	volume		acre-ft/yr	VOSEA
WI	Water Imported:	n	g	n/a	0.000	Acre-ft/Yr							WIEA
WE	Water Exported:	n	g	n/a	0.000	Acre-ft/Yr							WEEA

WATER SUPPLIED: 28,062.105 Acre-ft/Yr

AUTHORIZED CONSUMPTION

choose entry option:

BMAC	Billed Metered:	n	g	8	27,310.882	Acre-ft/Yr			
BUAC	Billed Unmetered:	n	g	n/a	0.000	Acre-ft/Yr			
UMAC	Unbilled Metered:	n	g	n/a	0.000	Acre-ft/Yr			
UUAC	Unbilled Unmetered:	n	g	4	32.100	Acre-ft/Yr	custom	32.100	acre-ft/yr

AUTHORIZED CONSUMPTION: 27,342.982 Acre-ft/Yr

WATER LOSSES

719.123 Acre-ft/Yr

Apparent Losses

Default option selected for Systematic Data Handling Errors, with automatic data grading of 3

choose entry option:

SDHE	Systematic Data Handling Errors:	n	g	3	68.277	Acre-ft/Yr	0.25%	default	
CMI	Customer Metering Inaccuracies:	n	g	6	557.365	Acre-ft/Yr	2.00%	percent	under-registration
UC	Unauthorized Consumption:	n	g	3	68.277	Acre-ft/Yr	0.25%	default	

Default option selected for Unauthorized Consumption, with automatic data grading of 3

Apparent Losses: 693.919 Acre-ft/Yr

Real Losses

Real Losses: 25.204 Acre-ft/Yr

WATER LOSSES: 719.123 Acre-ft/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 751.223 Acre-ft/Yr

SYSTEM DATA

Lm	Length of mains:	n	g	10	632.4	miles	(including fire hydrant lead lengths)
Nc	Number of service connections:	n	g	8	48,540		(active *and* inactive)
	Service connection density:				77	conn./mile main	

Are customer meters typically located at the curbstop/property line? Yes

Lp: n g 10

Average length of customer service line has been set to zero and a data grading of 10 has been applied

AOP	Average Operating Pressure:	n	g	8	62.0	psi

COST DATA

CRUC	Customer Retail Unit Charge:	n	g	10	$1.68	$/100 cubic feet (ccf)	Total Annual Operating Cost	
VPC	Variable Production Cost:	n	g	10	$95.31	$/acre-ft	$27,859,185	$/yr (optional input)

WATER AUDIT DATA VALIDITY TIER:

***** The Water Audit Data Validity Score is in Tier III (51-70). See Dashboard tab for additional outputs. *****

go to dashboard

A weighted scale for the components of supply, consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION TO IMPROVE DATA VALIDITY:

Based on the information provided, audit reliability can be most improved by addressing the following components:

1: Volume from Own Sources (VOS)
2: Billed Metered (BMAC)
3: Unauthorized Consumption (UC)

KEY PERFORMANCE INDICATOR TARGETS:

OPTIONAL: If targets exist for the operational performance indicators, they can be input below:

Unit Total Losses:		gal/conn/day
Unit Apparent Losses:		gal/conn/day
Unit Real Losses[A]:		gal/conn/day
Unit Real Losses[B]:		gal/mile/day

If entered above by user, targets will display on KPI gauges (see Dashboard)

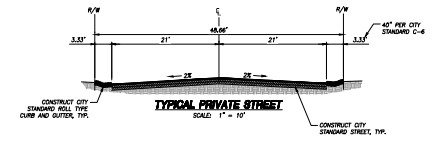
APPENDIX D: ESTIMATED HISTORICAL WATER USE AT PROPOSED PROJECT SITE

Year	Parcel ID	Crop	Area (acres)	Method	Efficiency	Eto Initial (in)	Eto Mid (in)	Eto Late (in)	Kc1	Kc2	Kc3	ETAF 1	ETAF 2	ETAF 3	ETWU1 (in)	ETWU2 (in)	ETWU3 (in)	Sum ETWU (in)	Parcel ETWU (AF)
2024	5410708	Almonds	9.64	Sprinkler	0.75	7.995	31.98	13.325	0.2	1.1	1.05	1.60	35.18	13.99	2.13	46.90	18.66	67.69	54.38
2024	5434606	Almonds	10.24	Sprinkler	0.75	7.995	31.98	13.325	0.2	1.1	1.05	1.60	35.18	13.99	2.13	46.90	18.66	67.69	57.76
2024	5416709	Almonds	5.95	Sprinkler	0.75	7.995	31.98	13.325	0.2	1.1	1.05	1.60	35.18	13.99	2.13	46.90	18.66	67.69	33.59
2024	5416034	Almonds	12.55	Sprinkler	0.75	7.995	31.98	13.325	0.2	1.1	1.05	1.60	35.18	13.99	2.13	46.90	18.66	67.69	70.80
2024	5426732	Almonds	4.85	Sprinkler	0.75	7.995	31.98	13.325	0.2	1.1	1.05	1.60	35.18	13.99	2.13	46.90	18.66	67.69	27.36
2024	5404285	Wheat	7.64	Sprinkler	0.75	15.99	26.65	10.66	0.3	1.15	0.25	4.80	30.65	2.67	6.40	40.86	3.55	50.81	32.37
2024	5419926	Wheat	16.92	Sprinkler	0.75	15.99	26.65	10.66	0.3	1.15	0.25	4.80	30.65	2.67	6.40	40.86	3.55	50.81	71.66
2024	5420452	Idle (Long Term)	5.22	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2023	5410708	Almonds	9.64	Sprinkler	0.75	7.995	31.98	13.325	0.2	1.1	1.05	1.60	35.18	13.99	2.13	46.90	18.66	67.69	54.38
2023	5434606	Almonds	10.24	Sprinkler	0.75	7.995	31.98	13.325	0.2	1.1	1.05	1.60	35.18	13.99	2.13	46.90	18.66	67.69	57.76
2023	5416709	Young Perennials	5.95	Drip	0.81	13.325	29.315	10.66	0.15	0.55	0.35	2.00	16.12	3.73	2.47	19.91	4.61	26.98	13.39
2023	5416034	Almonds	12.55	Sprinkler	0.75	7.995	31.98	13.325	0.2	1.1	1.05	1.60	35.18	13.99	2.13	46.90	18.66	67.69	70.80
2023	5426732	Almonds	4.85	Sprinkler	0.75	7.995	31.98	13.325	0.2	1.1	1.05	1.60	35.18	13.99	2.13	46.90	18.66	67.69	27.36
2023	5404285	Wheat	7.64	Sprinkler	0.75	15.99	26.65	10.66	0.3	1.15	0.25	4.80	30.65	2.67	6.40	40.86	3.55	50.81	32.37
2023	5419926	Wheat	16.92	Sprinkler	0.75	15.99	26.65	10.66	0.3	1.15	0.25	4.80	30.65	2.67	6.40	40.86	3.55	50.81	71.66
2023	5420452	Idle (Long Term)	5.22	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2022	5410708	Almonds	9.64	Sprinkler	0.75	7.995	31.98	13.325	0.2	1.1	1.05	1.60	35.18	13.99	2.13	46.90	18.66	67.69	54.38
2022	5434606	Almonds	10.24	Sprinkler	0.75	7.995	31.98	13.325	0.2	1.1	1.05	1.60	35.18	13.99	2.13	46.90	18.66	67.69	57.76
2022	5416709	Young Perennials	5.95	Drip	0.81	13.325	29.315	10.66	0.15	0.55	0.35	2.00	16.12	3.73	2.47	19.91	4.61	26.98	13.39
2022	5416034	Almonds	12.55	Sprinkler	0.75	7.995	31.98	13.325	0.2	1.1	1.05	1.60	35.18	13.99	2.13	46.90	18.66	67.69	70.80
2022	5426732	Almonds	4.85	Sprinkler	0.75	7.995	31.98	13.325	0.2	1.1	1.05	1.60	35.18	13.99	2.13	46.90	18.66	67.69	27.36
2022	5404285	Idle (Long Term)	7.64	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2022	5419926	Idle (Short Term)	16.92	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2022	5420452	Idle (Long Term)	5.22	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2021	5410708	Almonds	9.64	Sprinkler	0.75	7.995	31.98	13.325	0.2	1.1	1.05	1.60	35.18	13.99	2.13	46.90	18.66	67.69	54.38
2021	5434606	Almonds	10.24	Sprinkler	0.75	7.995	31.98	13.325	0.2	1.1	1.05	1.60	35.18	13.99	2.13	46.90	18.66	67.69	57.76

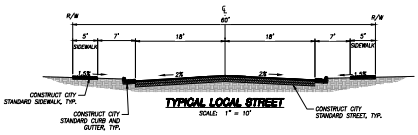
Year	Parcel ID	Crop	Area (acres)	Method	Efficiency	Eto Initial (in)	Eto Mid (in)	Eto Late (in)	Kc1	Kc2	Kc3	ETAF 1	ETAF 2	ETAF 3	ETWU1 (in)	ETWU2 (in)	ETWU3 (in)	Sum ETWU (in)	Parcel ETWU (AF)
2021	5416709	Idle (Short Term)	5.95	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2021	5416034	Almonds	12.55	Sprinkler	0.75	7.995	31.98	13.325	0.2	1.1	1.05	1.60	35.18	13.99	2.13	46.90	18.66	67.69	70.80
2021	5426732	Almonds	4.85	Sprinkler	0.75	7.995	31.98	13.325	0.2	1.1	1.05	1.60	35.18	13.99	2.13	46.90	18.66	67.69	27.36
2021	5404285	Idle (Short Term)	7.64	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2021	5419926	Idle (Short Term)	16.92	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2021	5420452	Idle (Long Term)	5.22	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2020	5410708	Almonds	9.64	Sprinkler	0.75	7.995	31.98	13.325	0.2	1.1	1.05	1.60	35.18	13.99	2.13	46.90	18.66	67.69	54.38
2020	5434606	Almonds	10.24	Sprinkler	0.75	7.995	31.98	13.325	0.2	1.1	1.05	1.60	35.18	13.99	2.13	46.90	18.66	67.69	57.76
2020	5416709	Idle (Unclassified)	5.95	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2020	5416034	Almonds	12.55	Sprinkler	0.75	7.995	31.98	13.325	0.2	1.1	1.05	1.60	35.18	13.99	2.13	46.90	18.66	67.69	70.80
2020	5426732	Almonds	4.85	Sprinkler	0.75	7.995	31.98	13.325	0.2	1.1	1.05	1.60	35.18	13.99	2.13	46.90	18.66	67.69	27.36
2020	5404285	Idle (Unclassified)	7.64	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2020	5419926	Idle (Unclassified)	16.92	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2020	5420452	Idle (Unclassified)	5.22	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

APPENDIX E: CLEMENTS RANCH TENTATIVE SUBDIVISION MAP

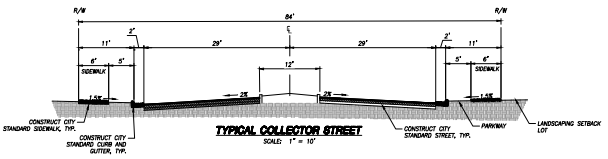
OVERALL BOUNDARY



TYPICAL PRIVATE STREET
SCALE: 1" = 10'



TYPICAL LOCAL STREET
SCALE: 1" = 10'



TYPICAL COLLECTOR STREET
SCALE: 1" = 10'

CLEMENTS RANCH
TENTATIVE SUBDIVISION MAP

BEING THE WEST HALF OF THE SOUTHWEST QUARTER OF SECTION 3, T.19S., R.25E., MOUNT DIABLO BASE AND MERIDIAN, IN THE COUNTY OF TULARE, STATE OF CALIFORNIA.

BY:

WHLENG.COM
1-800-955-7599
BAKERSFIELD, CLOVIS, HANFORD, MERCED, PORTERVILLE, VISALIA
© COPYRIGHT BY QUAD KNOPF, INC. UNAUTHORIZED USE PROHIBITED.

RECORD OWNER
HAROLD DEAN CLEMENTS

SUBDIVIDER
D.R. HORTON, AMERICA'S BUILDER
419 W. MURRAY AVENUE
VISALIA, CA 93231
(559) 636-9850

LAND SURVEYOR
ANTONIO S. WESTERLUND, PLS, CFedS
601 FOLLASBY AVE
SUITE 301
CLOVIS, CA 93612
(559)449-2400

LEGEND
ALL DISTANCES SHOWN ARE IN U.S. SURVEY FEET AND DECIMALS THEREOF, UNLESS OTHERWISE NOTED.

- SUBDIVISION BOUNDARY
- PROPOSED CENTERLINE
- SECTION LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING RIGHT OF WAY
- PROPOSED PARCEL LINES
- PROPOSED PUBLIC UTILITY EASEMENT
- SHEET INDEX LINE
- PHASE LINE

PROPOSED UNITS

MINIMUM LOT SIZES	NO. OF UNITS
50' X 100' LOTS	139
38' X 72' LOTS	153

UTILITIES

SOUTHERN CALIFORNIA EDISON:
MIGUEL IBARRA
2425 S. BLACKSTONE STREET,
TULARE, CA 93274
O: 559-684-3532
C: 559-801-1272
mibarr3@sce.com

AT&T:
ERIN PICCOLI
217 W. ACEQUIA AVENUE,
VISALIA, CA 93291
O: 559-739-4949
C: 559-737-1637
ep8542@att.com

SOUTHERN CALIFORNIA GAS COMPANY:
JUAN MEJORADO
404 N. TIPTON STREET,
VISALIA, CA 93292
PHONE: 559-739-2317
JMMejorado@socalgas.com

COMCAST:
MICHAEL CORRAL
1031 N. PLAZA DRIVE,
VISALIA, CA 93291
O: 559-735-2104
C: 559-217-9003
Michael_Corral@comcast.com

SITE DRAINAGE:
CITY OF VISALIA WASTEWATER DIVISION
7579 AVE 288,
VISALIA, CA 93277
PHONE: 559-713-4465

PROPOSED SEWERAGE:
CITY OF VISALIA WASTEWATER DIVISION
7579 AVE 288,
VISALIA, CA 93277
PHONE: 559-713-4465

WATER:
CALIFORNIA WATER SERVICE
216 N. VALLEY OAKS DRIVE,
VISALIA, CA 93291
PHONE: 559-624-1600

FIRE PROTECTION:
CITY OF VISALIA
420 N. BURKE STREET,
VISALIA, CA 93292
PHONE: 559-713-4266

SOLID WASTE COLLECTION:
CITY OF VISALIA
SOLID WASTE DIVISION
PHONE: 559-713-4489

LEGAL DESCRIPTION
REAL PROPERTY IN THE UNINCORPORATED AREA OF THE COUNTY OF TULARE, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

PARCEL 2:

THAT PORTION OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SECTION 3, TOWNSHIP 19 SOUTH, RANGE 25 EAST, MOUNT DIABLO BASE AND MERIDIAN, ACCORDING TO THE OFFICIAL PLAT THEREOF, DESCRIBED AS FOLLOWS:

BEGINNING 1100 FEET WEST OF THE SOUTHWEST CORNER OF THE SOUTHWEST QUARTER OF SAID SECTION 3; THENCE WEST 220 FEET TO THE SOUTHWEST CORNER OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SAID SECTION 3; THENCE NORTH ALONG THE WEST LINE OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SAID SECTION, 160 RODS TO THE NORTHWEST CORNER OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SAID SECTION 3; THENCE EAST 220 FEET TO A POINT 1100 FEET WEST OF THE NORTHEAST CORNER OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SECTION 3; THENCE SOUTH 160 RODS TO THE POINT OF BEGINNING.

EXCEPTING THEREFROM THAT PORTION LYING SOUTH OF THE CENTERLINE OF CAMERON CREEK, AS SAID CREEK EXISTED ON FEBRUARY 3, 1970.

APN: 127-020-020, 127-020-021 AND 127-020-022

NOTES

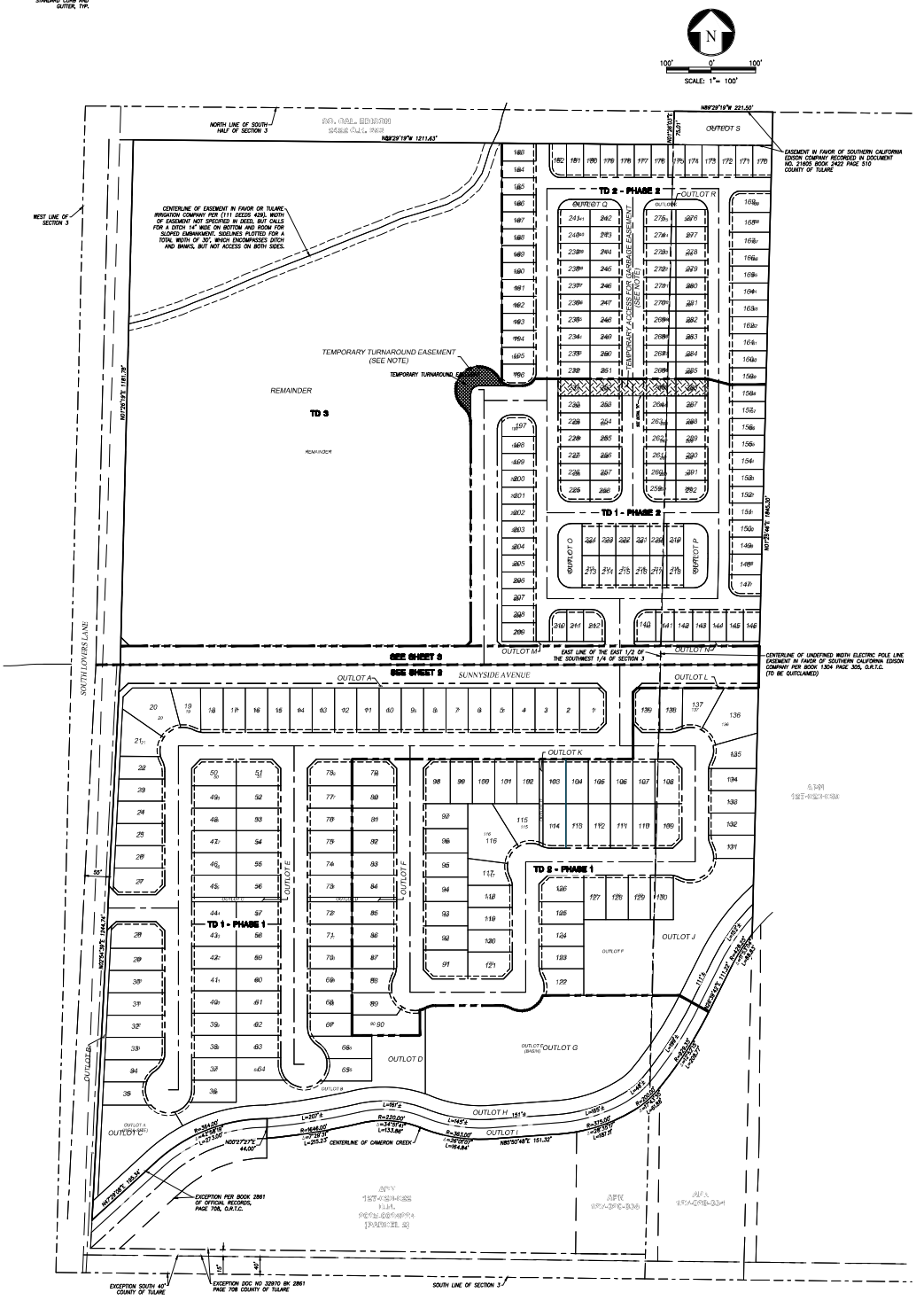
1. ADDRESS: VACANT LAND, TULARE COUNTY, CA 93292
2. DATE: JULY, 2025
3. EXISTING ZONING, LAND USE: R-2 (TULARE COUNTY)
4. EXISTING LAND USE: AE20 – EXCLUSIVE AGRICULTURE, 20-ACRE MINIMUM
5. PROPOSED ZONING, LAND USE: R-1-5 AND R-4A-2
6. SITE AREA: 78.11 ACRES(GROSS)/34.51 ACRE(NET)
7. NO GRADE DIFFERENTIALS MORE OF MORE THAN 6' IS FORESEEN. ANY GRADE DIFFERENTIALS ACROSS EXISTING AND PROPOSED PROPERTY LINES WILL BE MITIGATED PER COUNTY OF TULARE REQUIREMENTS.
8. PROPOSED SEWER, WATER, CONCRETE CURBS, CUTTERS, SIDEWALKS, STREETLIGHTS, AND STREET PAVEMENT TO BE INSTALLED PER COUNTY OF TULARE STANDARD SPECIFICATIONS.
9. ALL STREETS WITHIN THIS SUBDIVISION TO BE OFFERED FOR DEDICATION FOR PUBLIC STREET PURPOSES.
10. ALL EXISTING WATER LINES, SEWERS, AND STORM DRAINS WILL REMAIN UNLESS OTHERWISE NOTED.
11. ALL EXISTING STRUCTURES ARE TO BE REMOVED. WELLS AND SEPTIC SYSTEMS ARE TO BE ABANDONED PER CITY AND COUNTY STANDARDS.
12. THERE ARE KNOWN UNDERGROUND FEATURES SUCH AS WELLS WITHIN THE PROPOSED SUBDIVISION.
13. ENTIRE SITE IS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD: FLOOD ZONE-X AND ZONE-AE PER PANEL 945 OF 2550, MAP NO. 06107C0945E.
14. THERE ARE NO DUMP SITES ON THIS PROPERTY.
15. EXISTING SERVICE POLES TO BE REMOVED.
16. ALL EXISTING TREES TO BE REMOVED WITHIN THE BOUNDARY OF THE SUBDIVISION.
17. RESIDENTIAL BUILDING EXIST ONLY ON THE REMAINDER, AND WILL REMAIN UNTIL THE DEVELOPMENT OF SAID REMAINDER.
18. THIS IS A PHASED SUBDIVISION, CONSISTING OF FOUR PHASES WHICH ARE LABELED HEREON.

OUTLOT SCHEDULE

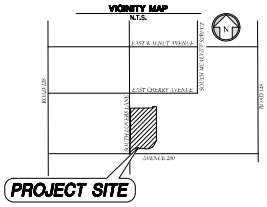
OUTLOTS A, B, E, F, H-P	TO BE DEDICATED TO THE CITY OF VISALIA FOR OPEN SPACE, PEDESTRIAN, AND LANDSCAPE PURPOSES.
OUTLOT D AND H	TO BE DEDICATED TO THE CITY OF VISALIA FOR TRAIL PURPOSES
OUTLOT C–WATER WELL	TO BE MAINTAINED BY CITY OF VISALIA USED FOR WATER WELL PURPOSES ONLY.
OUTLOT G–STORMWATER BASIN	TO BE MAINTAINED BY CITY OF VISALIA FOR STORM DRAIN PURPOSES ONLY.
OUTLOT I	TO BE DEDICATED TO TULARE COUNTY IRRIGATION DISTRICT
OUTLOTS N, O, P, AND Q	TO BE MAINTAINED BY HOA
OUTLOT S	TO BE DEEDED TO SOUTHER CALIFORNIA EDISON

TEMPORARY TURNAROUND EASEMENT NOTE
THE AREA SHOWN HEREON AS "TEMPORARY TURNAROUND EASEMENT" IS INTENDED TO FACILITATE VEHICLE ACCESS AND TURNAROUND OUTSIDE OF THE HOA DEVELOPMENT UNTIL THE TIME OF DEVELOPMENT OF THE REMAINDER, SHOWN AS PHASE 3 PARCEL MAP IS BEING PROCESSED. INTENTION IS TO OFFER THIS AREA AS AN LOJL FOR PUBLIC ACCESS WITH THE PARCEL MAP AND TO HAVE SAID OFFER ACCEPTED BY RESOLUTION AT THE TIME OF DEVELOPMENT OF THE AREA LABELED HEREON AS "PHASE 3". AT THE TIME OF FUTURE DEVELOPMENT OF THE REMAINDER, SAID EASEMENT WOULD BE ABANDONED.

TEMPORARY ACCESS FOR GARBAGE EASEMENT NOTE
THE AREA SHOWN HEREON AS "TEMPORARY ACCESS FOR GARBAGE EASEMENT" IS INTENDED TO FACILITATE VEHICLE ACCESS TO COLLECT GARBAGE. SAID EASEMENT WOULD BE ABANDONED AND ABLE TO BUILD ON IT DURING TD-2 PHASE 2.



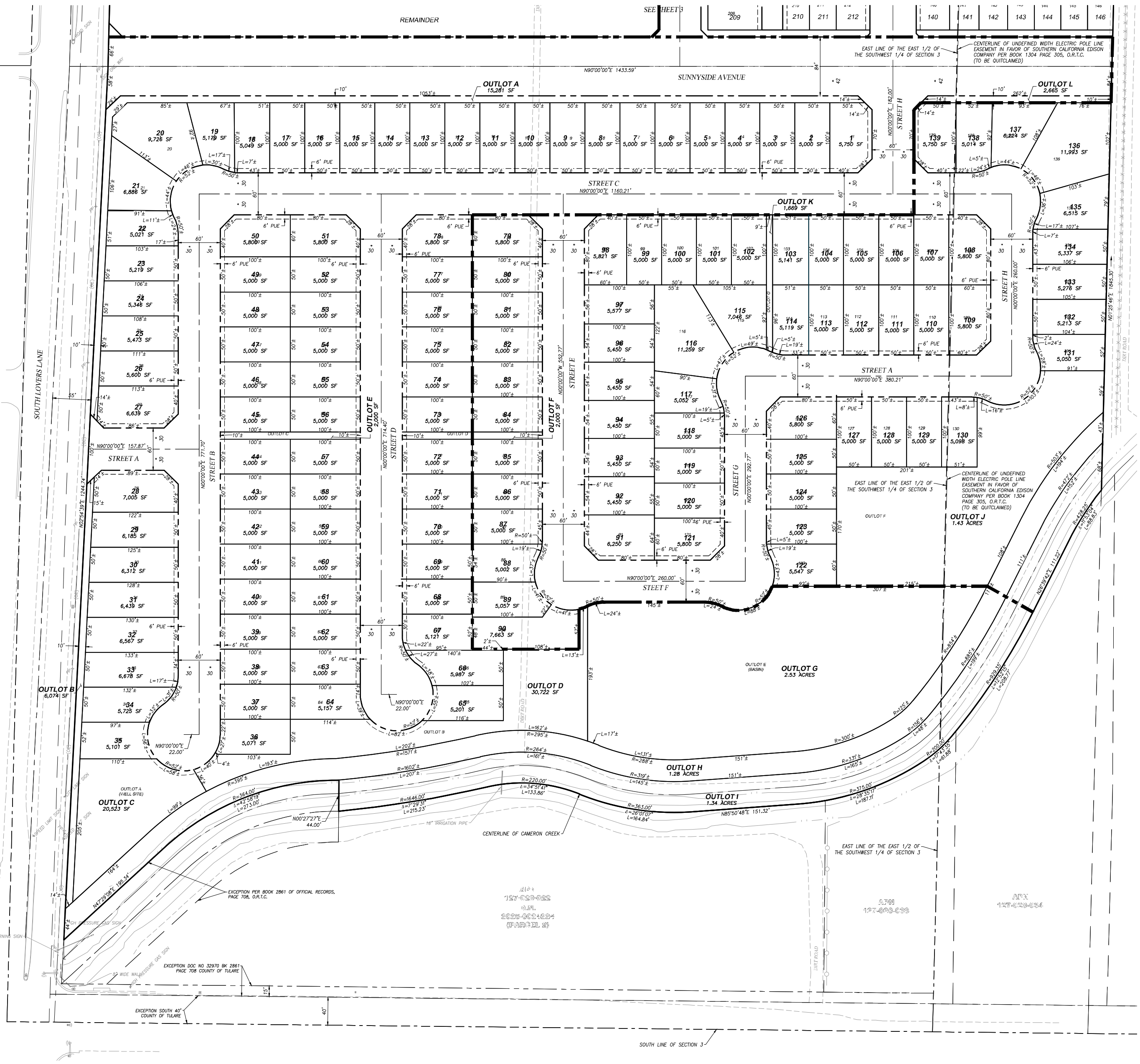
VICINITY MAP
N.T.S.



SHEET 1 OF 3

CLEMENTS RANCH
TENTATIVE SUBDIVISION MAP

BEING THE WEST HALF OF THE SOUTHWEST QUARTER OF SECTION 3,
T.19S., R.25E., MOUNT DIABLO BASE AND MERIDIAN,
IN THE COUNTY OF TULARE, STATE OF CALIFORNIA.

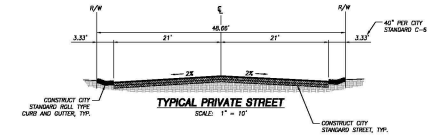


LEGEND

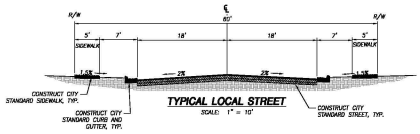
ALL DISTANCES SHOWN ARE IN U.S. SURVEY FEET AND DECIMALS THEREOF, UNLESS OTHERWISE NOTED.

- SUBDIVISION BOUNDARY
- PROPOSED CENTERLINE
- SECTION LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING RIGHT OF WAY
- PROPOSED PARCEL LINES
- PROPOSED PUBLIC UTILITY EASEMENT
- SHEET INDEX LINE
- PHASE LINE
- EXISTING BARBED WIRE FENCE
- EXISTING EDGE OF ROAD
- EXISTING TOE OF SLOPE
- EXISTING TOP OF SLOPE
- EXISTING TOP CURB, FLOWLINE, LIP OF GUTTER
- EXISTING EDGE OF PAVEMENT
- EXISTING SWALE
- EXISTING OVERHEAD ELECTRICAL LINE
- EXISTING CHAIN LINK FENCE
- * PROPOSED CITY RIGHT OF WAY DEDICATION
- EXISTING POWER POLE (SIZE VARIES)
- EXISTING IRRIGATION VALVE
- EXISTING STANDPIPE (SIZE VARIES)
- EXISTING WELL
- EXISTING GUY WIRE
- EXISTING RAILROAD ARMS WITH LIGHTS
- EXISTING STREETLIGHT
- EXISTING STREETLIGHT WITH ARM
- EXISTING GAS VALVE
- EXISTING ELECTRICAL VAULT
- EXISTING SIGN
- EXISTING WATER VALVE
- EXISTING TRAFFIC SIGNAL PULLBOX
- EXISTING FIRE HYDRANT
- EXISTING STORM DRAIN INLET
- EXISTING MANHOLE
- EXISTING TELEPHONE MANHOLE
- EXISTING TRAFFIC PEDASTAL
- POWERPOLE WITH LIGHT

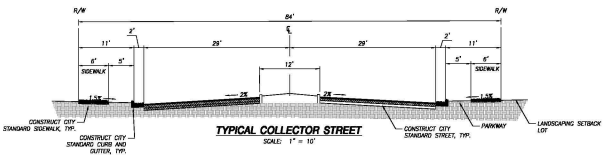
OVERALL BOUNDARY



TYPICAL PRIVATE STREET
SCALE: 1" = 10'



TYPICAL LOCAL STREET
SCALE: 1" = 10'



TYPICAL COLLECTOR STREET
SCALE: 1" = 10'

TENTATIVE SUBDIVISION MAP

BEING THE WEST HALF OF THE SOUTHWEST QUARTER OF SECTION 3, T.19S., R.25E., MOUNT DIABLO BASE AND MERIDIAN, IN THE COUNTY OF TULARE, STATE OF CALIFORNIA.

BY:

WWW.QKINC.COM
1-800-450-7599
BAKERSFIELD, CLOVIS, HANFORD, MERCED, PORTERVILLE, VISALIA
© COPYRIGHT BY QUAD KNOPF, INC. UNAUTHORIZED USE PROHIBITED.

RECORD OWNER
HAROLD DEAN CLEMENTS

SUBDIVIDER
D.R. HORTON, AMERICA'S BUILDER
419 W. MURRAY AVENUE
VISALIA, CA 93231
(559) 636-9850

LAND SURVEYOR
ANTONIO S. WESTERLUND, PLS, CFedS
801 PELLISSIER AVE.
SUITE 301
CLOVIS, CA 93612
(559)449-2400

LEGEND
ALL DISTANCES SHOWN ARE IN U.S. SURVEY FEET AND DECIMALS THEREOF, UNLESS OTHERWISE NOTED.

- SUBDIVISION BOUNDARY
- PROPOSED CENTERLINE
- SECTION LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING RIGHT OF WAY
- PROPOSED PARCEL LINES
- PROPOSED PUBLIC UTILITY EASEMENT
- SHEET INDEX LINE
- PHASE LINE

PROPOSED UNITS

MINIMUM LOT SIZES	NO. OF UNITS
50' X 100' LOTS	139
38' X 72' LOTS	153

UTILITIES

SOUTHERN CALIFORNIA EDISON:
MICHAEL IBARRA
2425 S. BLACKSTONE STREET,
TULARE, CA 93274
O: 559-684-3532
C: 559-801-1272
mikael.ibarra@sce.com

AT&T:
ERIN PECTOL
217 W. ACEQUIA AVENUE,
VISALIA, CA 93291
O: 559-735-6449
C: 559-737-1637
ep8540@att.com

SOUTHERN CALIFORNIA GAS COMPANY:
JUAN MEJORADO
404 N. TIPTON STREET,
VISALIA, CA 93292
PHONE: 559-739-2317
JMMejorado@socalgas.com

COMCAST:
MICHAEL CORRAL
1031 N. PLAZA DRIVE,
VISALIA, CA 93291
O: 559-735-2104
C: 559-217-9003
Michael_Corral@comcast.com

SITE DRAINAGE:
CITY OF VISALIA WASTEWATER DIVISION
7579 AVE 288,
VISALIA, CA 93277
PHONE: 559-713-4465

PROPOSED SEWERAGE:
CITY OF VISALIA WASTEWATER DIVISION
7579 AVE 288,
VISALIA, CA 93277
PHONE: 559-713-4465

WATER:
CALIFORNIA WATER SERVICE
216 N. VALLEY OAKS DRIVE,
VISALIA, CA 93292
PHONE: 559-624-1600

FIRE PROTECTION:
CITY OF VISALIA
420 N. BURKE STREET,
VISALIA, CA 93292
PHONE: 559-713-4266

SOLID WASTE COLLECTION:
CITY OF VISALIA
SOLID WASTE DIVISION
PHONE: 559-713-4489

LEGAL DESCRIPTION

REAL PROPERTY IN THE UNINCORPORATED AREA OF THE COUNTY OF TULARE, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

PARCEL 2:

THAT PORTION OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SECTION 3, TOWNSHIP 19 SOUTH, RANGE 25 EAST, MOUNT DIABLO BASE AND MERIDIAN, ACCORDING TO THE OFFICIAL PLAT THEREOF, DESCRIBED AS FOLLOWS:

BEGINNING 1100 FEET WEST OF THE SOUTHWEST CORNER OF THE SOUTHWEST QUARTER OF SAID SECTION 3; THENCE WEST 220 FEET TO THE SOUTHWEST CORNER OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SAID SECTION 3; THENCE NORTH ALONG THE WEST LINE OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SAID SECTION, 160 RODS TO THE NORTHWEST CORNER OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SAID SECTION 3; THENCE EAST 220 FEET TO A POINT 1100 FEET WEST OF THE NORTHEAST CORNER OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SECTION 3; THENCE SOUTH 160 RODS TO THE POINT OF BEGINNING.

EXCEPTING THEREFROM THAT PORTION LYING SOUTH OF THE CENTERLINE OF CAMERON CREEK, AS SAID CREEK EXISTED ON FEBRUARY 3, 1970.

APN: 127-020-025, 127-020-031 AND 127-020-022

NOTES

1. ADDRESS: VACANT LAND, TULARE COUNTY, CA 93292
2. DATE: JULY, 2025
3. EXISTING ZONING, LAND USE: R-2 (TULARE COUNTY)
4. EXISTING LAND USE: AC20 – EXCLUSIVE AGRICULTURE, 20-ACRE MINIMUM
5. PROPOSED ZONING, LAND USE: R-1-5 AND R-M-2
6. SITE AREA: 28.11 ACRES(GROSS)/24.51 ACRES(NET)
7. NO GRADE DIFFERENTIALS MORE OF MORE THAN 6" IS FORESEEN. ANY GRADE DIFFERENTIALS ACROSS EXISTING AND PROPOSED PROPERTY LINES WILL BE MITIGATED PER COUNTY OF TULARE REQUIREMENTS.
8. PROPOSED SEWER, WATER, CONCRETE CURBS, GUTTERS, SIDEWALKS, STREETLIGHTS, AND STREET PAVEMENT TO BE INSTALLED PER COUNTY OF TULARE STANDARD SPECIFICATIONS.
9. ALL STREETS WITHIN THIS SUBDIVISION TO BE OFFERED FOR DEDICATION FOR PUBLIC STREET PURPOSES.
10. ALL EXISTING WATER LINES, SEWERS, AND STORM DRAINS WILL REMAIN UNLESS OTHERWISE NOTED.
11. ALL EXISTING STRUCTURES ARE TO BE REMOVED. WELLS AND SEPTIC SYSTEMS ARE TO BE ABANDONED PER CITY AND COUNTY STANDARDS.
12. THERE ARE KNOWN UNDERGROUND FEATURES SUCH AS WELLS WITHIN THE PROPOSED SUBDIVISION.
13. ENTIRE SITE IS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD. FLOOD ZONE=X AND ZONE=AE PER PANEL 945 OF 2550, MAP NO. 06107C0945E.
14. THERE ARE NO DUMP SITES ON THIS PROPERTY.
15. EXISTING SERVICE POLES TO BE REMOVED.
16. ALL EXISTING TREES TO BE REMOVED WITHIN THE BOUNDARY OF THE SUBDIVISION.
17. RESIDENTIAL BUILDINGS EXIST ONLY ON THE REMAINDER, AND WILL REMAIN UNTIL THE DEVELOPMENT OF SAID REMAINDER.
18. THIS IS A PHASED SUBDIVISION, CONSISTING OF FOUR PHASES WHICH ARE LABELED HEREON.

OUTLOT SCHEDULE

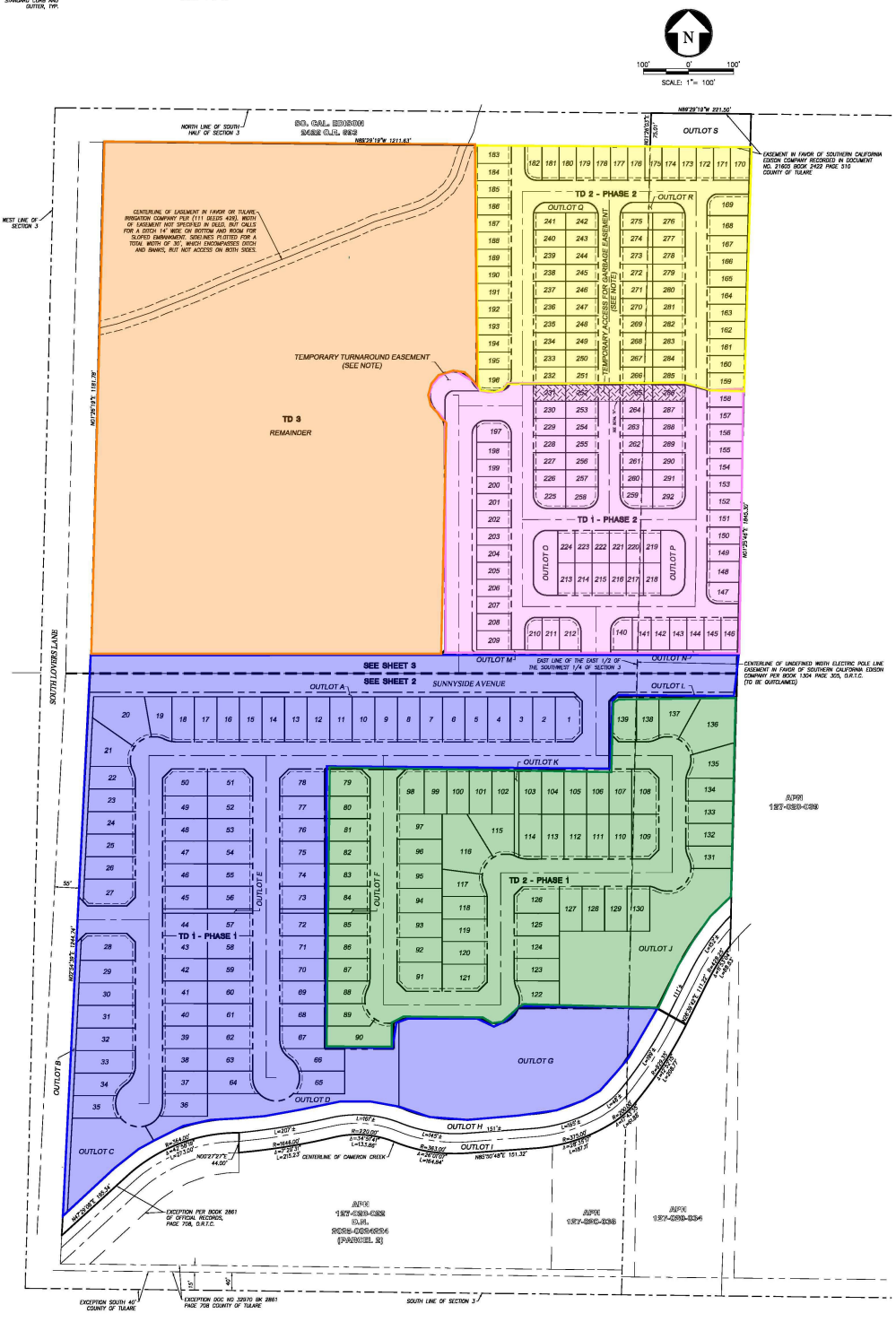
OUTLOTS A, B, E, F, H-P	TO BE DEDICATED TO THE CITY OF VISALIA FOR OPEN SPACE, PEDESTRIAN, PUBLIC LANDSCAPE PURPOSES.
OUTLOT D AND H	TO BE DEDICATED TO THE CITY OF VISALIA FOR TRAIL PURPOSES
OUTLOT C–WATER WELL	TO BE MAINTAINED BY CITY OF VISALIA USED FOR WATER WELL PURPOSES ONLY.
OUTLOT G–STORMWATER BASIN	TO BE MAINTAINED BY CITY OF VISALIA FOR STORM DRAIN PURPOSES ONLY.
OUTLOT I	TO BE DEDICATED TO TULARE COUNTY IRRIGATION DISTRICT
OUTLOTS N, O, P, AND Q	TO BE MAINTAINED BY HOA
OUTLOT S	TO BE DEEDED TO SOUTHER CALIFORNIA EDISON

TEMPORARY TURNAROUND EASEMENT NOTE

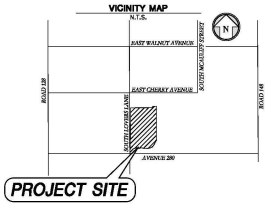
THE AREA SHOWN HEREON AS "TEMPORARY TURNAROUND EASEMENT" IS INTENDED TO FACILITATE VEHICLE ACCESS AND TURNAROUND OUTSIDE OF THE HOA DEVELOPMENT UNTIL THE TIME OF DEVELOPMENT OF THE REMAINDER. SEPARATE FROM THIS TSM, A PARCEL MAP IS BEING PROCESSED AND INTENDED TO OFFER THIS AREA AS AN I.O.D. FOR PUBLIC ACCESS WITH THE PARCEL MAP. IN THE EVENT THAT SAID OFFER ACCEPTED BY RESOLUTION AT THE TIME OF DEVELOPMENT OF THE AREA LABELED HEREON AS PHASE 3, AT THE TIME OF FUTURE DEVELOPMENT OF THE REMAINDER, SAID EASEMENT WOULD BE ABANDONED.

TEMPORARY ACCESS FOR GARBAGE EASEMENT NOTE

THE AREA SHOWN HEREON AS "TEMPORARY ACCESS FOR GARBAGE EASEMENT" IS INTENDED TO FACILITATE VEHICLE ACCESS TO COLLECT GARBAGE. SAID EASEMENT WOULD BE ABANDONED AND ABLE TO BUILD ON IT DURING TD-2 PHASE 2.

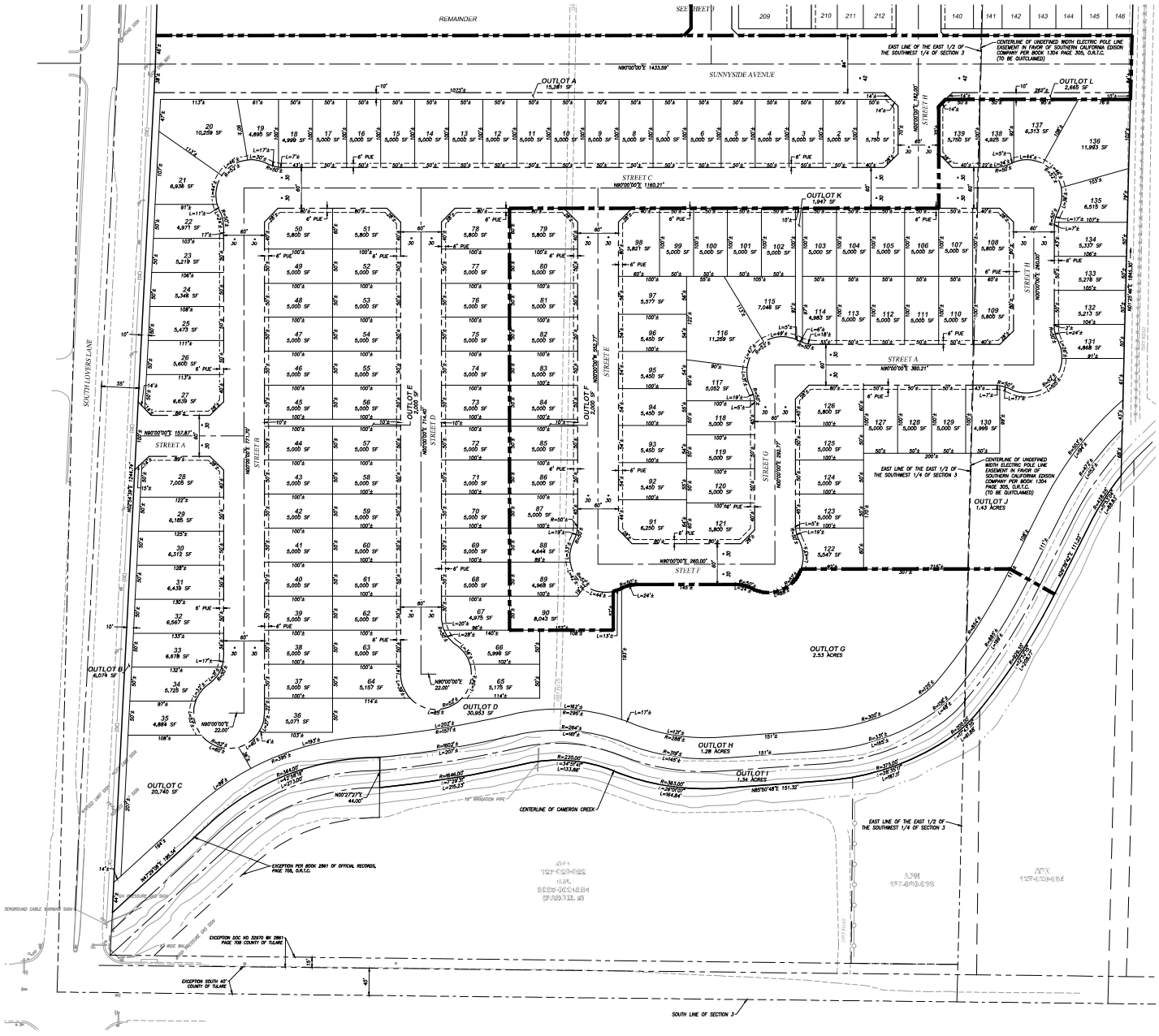


VICINITY MAP
N.T.S.



TENTATIVE SUBDIVISION MAP

BEING THE WEST HALF OF THE SOUTHWEST QUARTER OF SECTION 3, T.19S., R.25E., MOUNT DIABLO BASE AND MERIDIAN, IN THE COUNTY OF TULARE, STATE OF CALIFORNIA.



LEGEND

ALL DISTANCES SHOWN ARE IN U.S. SURVEY FEET AND DECIMALS THEREOF, UNLESS OTHERWISE NOTED.

- SUBDIVISION BOUNDARY
- PROPOSED CENTERLINE
- SECTION LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING RIGHT OF WAY
- PROPOSED PARCEL LINES
- PROPOSED PUBLIC UTILITY EASEMENT
- SHEET INDEX LINE
- PHASE LINE
- EXISTING BARBED WIRE FENCE
- EXISTING EDGE OF ROAD
- EXISTING TOE OF SLOPE
- EXISTING TOP OF SLOPE
- EXISTING TOP CURB, FLOWLINE, LIP OF GUTTER
- EXISTING EDGE OF PAVEMENT
- EXISTING SWALE
- EXISTING OVERHEAD ELECTRICAL LINE
- EXISTING CHAIN LINK FENCE
- PROPOSED CITY RIGHT OF WAY DEDICATION
- EXISTING POWER POLE (SIZE VARIES)
- EXISTING IRRIGATION VALVE
- EXISTING STANDPIPE (SIZE VARIES)
- EXISTING WELL
- EXISTING GUY WIRE
- EXISTING RAILROAD ARMS WITH LIGHTS
- EXISTING STREETLIGHT
- EXISTING STREETLIGHT WITH ARM
- EXISTING GAS VALVE
- EXISTING ELECTRICAL VAULT
- EXISTING SIGN
- EXISTING WATER VALVE
- EXISTING TRAFFIC SIGNAL PULLBOX
- EXISTING FIRE HYDRANT
- EXISTING STORM DRAIN INLET
- EXISTING MANHOLE
- EXISTING TELEPHONE MANHOLE
- EXISTING TRAFFIC PEDASTAL
- POWERPOLE WITH LIGHT

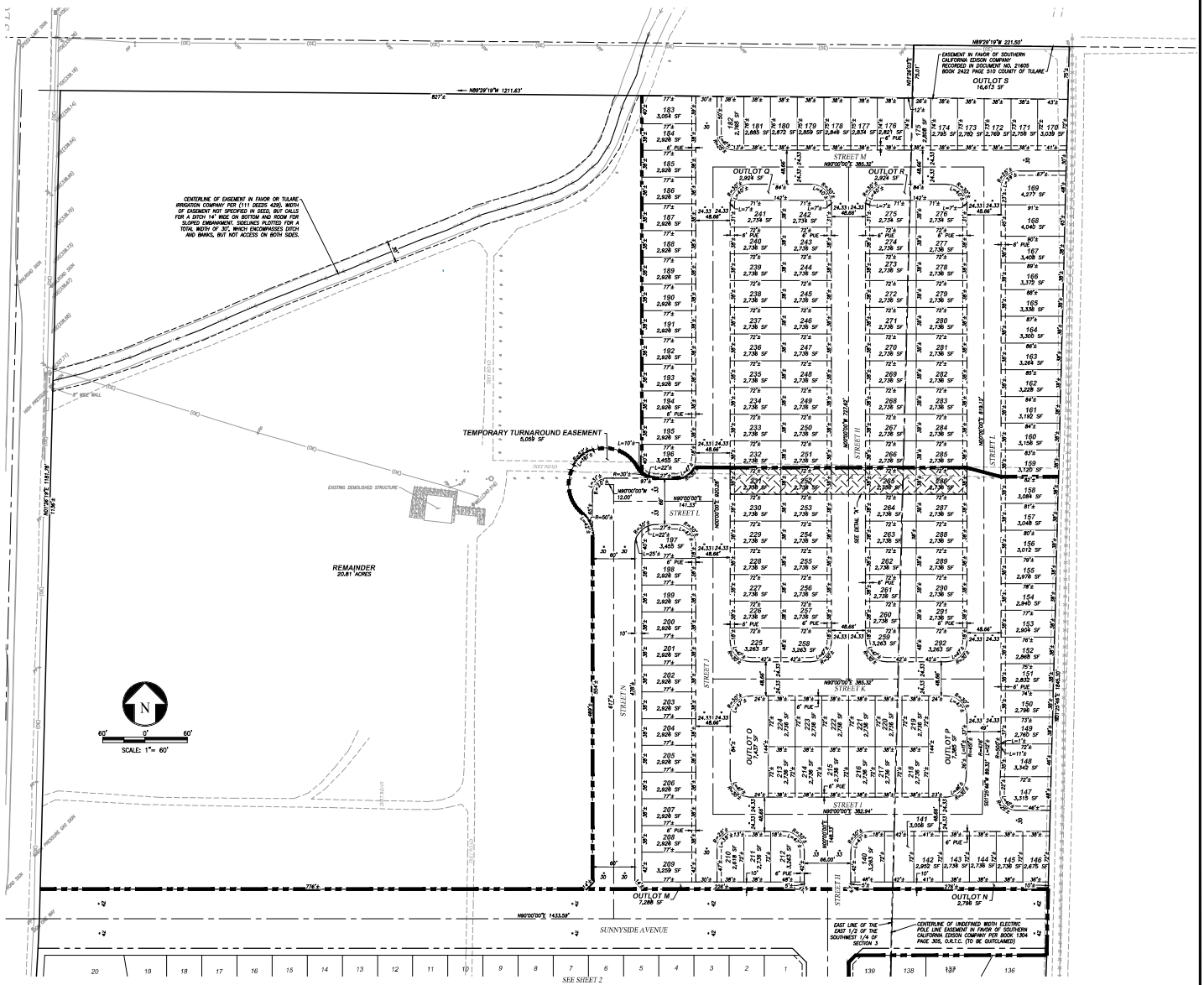
N

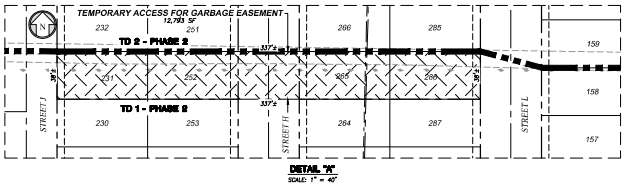
60' 0' 60'

SCALE: 1" = 60'

TENTATIVE SUBDIVISION MAP

BEING THE WEST HALF OF THE SOUTHWEST QUARTER OF SECTION 3, T.19S., R.25E., MOUNT DIABLO BASE AND MERIDIAN, IN THE COUNTY OF TULARE, STATE OF CALIFORNIA.





DETAIL "A"
SCALE: 1" = 40'

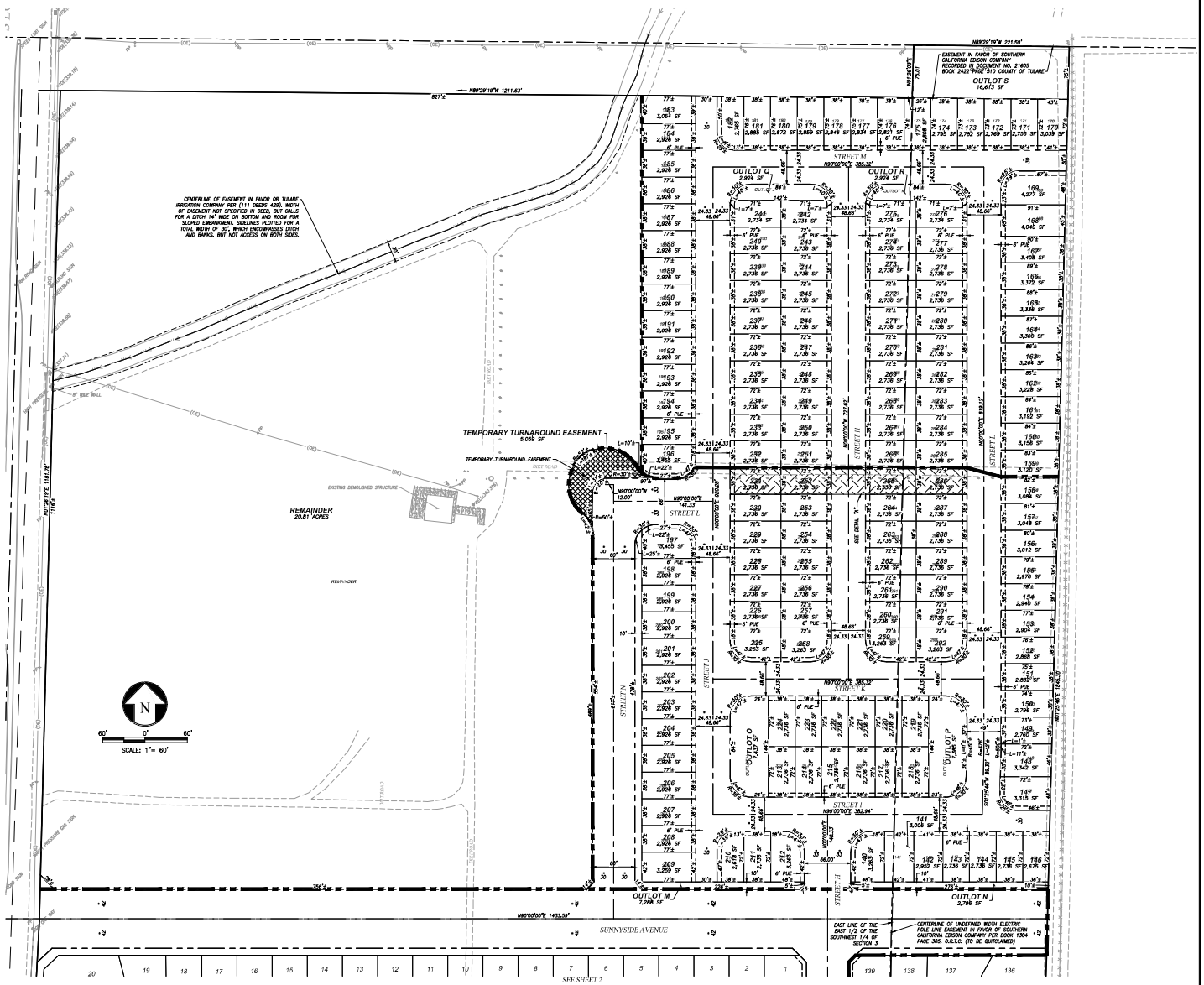
LEGEND

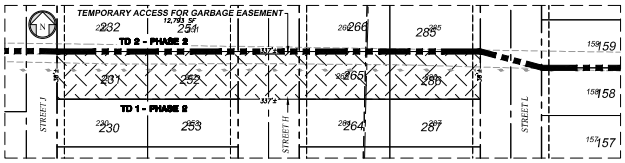
ALL DISTANCES SHOWN ARE IN U.S. SURVEY FEET AND DECIMALS THEREOF, UNLESS OTHERWISE NOTED.

- SUBDIVISION BOUNDARY
- PROPOSED CENTERLINE
- SECTION LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING RIGHT OF WAY
- PROPOSED PARCEL LINES
- PROPOSED PUBLIC UTILITY EASEMENT
- SHEET INDEX LINE
- PHASE LINE
- EXISTING BARBED WIRE FENCE
- EXISTING EDGE OF ROAD
- EXISTING TOE OF SLOPE
- EXISTING TOP OF SLOPE
- EXISTING TOP CURB, FLOWLINE, LIP OF GUTTER
- EXISTING EDGE OF PAVEMENT
- EXISTING SWALE
- EXISTING OVERHEAD ELECTRICAL LINE
- EXISTING CHAIN LINK FENCE
- PROPOSED CITY RIGHT OF WAY DEDICATION
- EXISTING POWER POLE (SIZE VARIES)
- EXISTING IRRIGATION VALVE
- EXISTING STANDPIPE (SIZE VARIES)
- EXISTING WELL
- EXISTING GUY WIRE
- EXISTING RAILROAD ARMS WITH LIGHTS
- EXISTING STREETLIGHT
- EXISTING STREETLIGHT WITH ARM
- EXISTING GAS VALVE
- EXISTING ELECTRICAL VAULT
- EXISTING SIGN
- EXISTING WATER VALVE
- EXISTING TRAFFIC SIGNAL PULLBOX
- EXISTING FIRE HYDRANT
- EXISTING STORM DRAIN INLET
- EXISTING MANHOLE
- EXISTING TELEPHONE MANHOLE
- EXISTING TRAFFIC PEDASTAL
- POWERPOLE WITH LIGHT

~~CLEMENTS RANCH~~
TENTATIVE SUBDIVISION MAP

BEING THE WEST HALF OF THE SOUTHWEST QUARTER OF SECTION 3, T.19S., R.25E., MOUNT DIABLO BASE AND MERIDIAN, IN THE COUNTY OF TULARE, STATE OF CALIFORNIA.





DETAIL "A"
SCALE: 1" = 40'

LEGEND

ALL DISTANCES SHOWN ARE IN U.S. SURVEY FEET AND DECIMALS THEREOF, UNLESS OTHERWISE NOTED.

- SUBDIVISION BOUNDARY
- PROPOSED CENTERLINE
- SECTION LINE
- PROPOSED RIGHT OF WAY LINE
- EXISTING RIGHT OF WAY
- PROPOSED PARCEL LINES
- PROPOSED PUBLIC UTILITY EASEMENT
- SHEET INDEX LINE
- PHASE LINE
- EXISTING BARBED WIRE FENCE
- EXISTING EDGE OF ROAD
- EXISTING TOE OF SLOPE
- EXISTING TOP OF SLOPE
- EXISTING TOP CURB, FLOWLINE, LIP OF GUTTER
- EXISTING EDGE OF PAVEMENT
- EXISTING SWALE
- EXISTING OVERHEAD ELECTRICAL LINE
- EXISTING CHAIN LINK FENCE
- PROPOSED CITY RIGHT OF WAY DEDICATION
- EXISTING POWER POLE (SIZE VARIES)
- EXISTING IRRIGATION VALVE
- EXISTING STANDPIPE (SIZE VARIES)
- EXISTING WELL
- EXISTING GUY WIRE
- EXISTING RAILROAD ARMS WITH LIGHTS
- EXISTING STREETLIGHT
- EXISTING STREETLIGHT WITH ARM
- EXISTING GAS VALVE
- EXISTING ELECTRICAL VAULT
- EXISTING SIGN
- EXISTING WATER VALVE
- EXISTING TRAFFIC SIGNAL PULLBOX
- EXISTING FIRE HYDRANT
- EXISTING STORM DRAIN INLET
- EXISTING MANHOLE
- EXISTING TELEPHONE MANHOLE
- EXISTING TRAFFIC PEDASTAL
- POWERPOLE WITH LIGHT

Woodard & Curran

woodardcurran.com